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PERSONAL

Mr. Thos. P. McDonough has been appointed Engineer of Track Elevation for the city of Chicago, to succeed Mr. Theodore Buskirk, resigned.

Mr. Jacob R. Rogers, President of the Rogers Locomotive & Machine Works, Paterson, N. J., was seriously injured on Feb. 10 by a cable car in New York city.

Mr. Nathaniel Roberts, M. Am. Soc. C. E., consulting engineer, has removed his office from 120 Libertv St. to Rooms 1430 and 1431 Bowling Green Building, 11 Broadway, New York city.

Mr. George S. Morison, Past President Am. Soc. C. E., of New York city, delivered a lecture on "Masonry" before the students of the Rensselaer Polytechnic Institute, Troy, N. Y., Feb. 8.

Mr. L. S. Doten, Resident Engineer on the Rutland-Canadian R. R., has resigned to accept the appointment as Cartographic Draftsman in the Hydrographic Office of the Navy Department, Washington, D. C.

Mr. Arthur J. Rockwood, of the firm of Guthrie & Rockwood, civil engineers, 836 Ellicott Square, Buffalo, N. Y., has been appointed Division Engineer of the Western Division of the Erie Canal, to succeed Mr. W. Little, resigned.

Mr. John McGhie, who for several years has been connected with the General Electric Co. as Manager of the Advertising Department, with offices at 44 Broad St., New York, has resigned to accept the position of Western representative of the "American Machinist," with headquarters in Cleveland, O.

Mr. W. H. Truesdale, First Vice-President and General Manager of the Chicago, Rock Island & Pacific Ry., whose selection by the Nominating Committee of the Board of Directors of the Delaware, Lackawanna & Western R. R. to succeed Mr. Sloan as President of the latter road was noted in our last issue, has accepted the office, and will be formally elected by the Directors.

Mr. Desmond FitzGerald, of Boston, Mass., President of the American Society of Civil Engineers, and Mr. Rudolph Hering, M. Am. Soc. C. E., of New York city, have been appointed by Mayor Dodge, of Worcester, Mass., to act with Mr. F. A. McClure, City Engineer of Worcester, as a commission of experts in preparing a report of the best method of abolishing the grade crossings in that city.

Mr. William E. Baker, electrical engineer, has been appointed General Superintendent and Chief Electrical Engineer of the Manhattan Ry. in New York city. Mr. Baker is a graduate of Lafayette College, Easton, Pa., and was connected with the engineering department of the St. Paul & Pacific Ry., the St. Paul, Minneapolis & Manitoba Ry., the Canadian Pacific Ry., and the Great Northern Ry. He installed the electrical equipment of the West End St. Ry. of Boston, Mass., and had charge of the construction of the Intermural Ry. at the World's Fair in Chicago. Since then he has been General Superintendent of the Metropolitan West Side Elevated R. R. of Chicago.

Mr. W. H. Wells, Civil Engineer of the Southern Ry., with headquarters in Washington, D. C., has reorganized the Engineering Department and announces the following appointments: Mr. Chas. B. Clark, Assistant Engineer and Office Assistant, Washington; Mr. Benj. Thompson, M. Am. Soc. C. E., Resident Engineer of the Eastern Division, with headquarters in Greensboro, N. C.; Mr. W. F. H. Finke, Assistant Engineer, in charge of the Washington and Richmond Division, with headquarters in Washington; Mr. F. de P. Horne, Assistant Engineer in charge of the Norfolk and Asheville Division, with headquarters in Greensboro, N. C.; Mr. W. E. Vest, Assistant Engineer, in charge of the Charlotte and Columbia Divisions, with headquarters in Charlotte, N. C.; Mr. B. C. Milner, Jr., Resident Engineer of the Western Divisions, with headquarters at Atlanta, Ga.; Mr. J. B. Newton, Assistant Engineer, in charge of the Knoxville, Memphis and Louisville Divisions, with headquarters in Knoxville, Tenn; Mr. J. C. Motley, Assistant Engineer, in charge of the Atlanta and Macon Divisions, with headquarters in Atlanta, Ga., and Mr. J. R. Pill, Assistant Engineer, in charge of the Birmingham and Anniston Divisions, with headquarters in Birmingham, Ala.

OBITUARY.

Mr. O. S. Horton, contractor, of Galena, Ill., died of apoplexy, Feb. 7.

Mr. Robert Falconer, civil engineer, died in the Soldiers' Home, Erie, Pa., Feb. 5, aged 58.

Mr. Herbert Lee Weston, civil engineer, of Bayonne, N. J., died Feb. 7, aged 49. He was associated with Mr. Emmett Smith, City Engineer of that place.

Mr. John Barrett, sewer contractor, of Chicago, Ill., died in that city, Feb. 6, aged 63. He was born in Cambridgeshire, England, and went to Chicago in 1860.

Mr. Hugh Ryan, railway contractor, of Toronto, Ont., died Feb. 13, aged 67. He built the Canadian Sault Ste. Marie ship canal lock and many miles of railway in Canada, Michigan, Illinois, Kentucky and Maine.

Mr. Jesse H. Bunnell, senior partner of the firm of J. H. Bunnell & Co., manufacturers of electrical supplies, 16 Cortlandt St., New York city, died Feb. 8, at his home in Brooklyn, N. Y., aged 56. He was born in Massillon, O., and learned telegraphy. During the Civil War he was a member of the United States Military Telegraph Service in which he distinguished himself and at the close of hostilities he came to New York and established the firm mentioned above.

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ENGINEERING SOCIETIES.

COMING TECHNICAL MEETINGS.

NEW YORK RAILROAD CLUB.
Feb. 16. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.
CHICAGO ELECTRICAL ASSOCIATION.
Feb. 17. Secy., J. R. Cravath, 825 Monadnock Block, Chicago, Ill.
THE DETROIT ENGINEERING SOCIETY.
Feb. 17. Secy., Henry Goldmark, Wayne Co. Savings Bank Bldg., Detroit, Mich.
ROCHESTER ENGINEERING SOCIETY.
Feb. 17. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.
ENGINEERS' CLUB OF PHILADELPHIA.
Feb. 18. "A Sand Filter Plant," J. W. Ledoux. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.
ENGINEERS' AND ARCHITECTS' ASSOCIATION OF SOUTHERN CALIFORNIA.
Feb. 18. Secy., Frank Van Vleck, Currier Block, Los Angeles, Cal.
ENGINEERS' CLUB OF COLUMBUS.
Feb. 18. Secy., H. M. Gates, 12½ North High St., Columbus, O.
ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
Feb. 20. "The Nicaragua Canal." Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.
TECHNICAL CLUB OF OMAHA.
Feb. 20. Secy., J. Harry Lawrie, Omaha, Neb.
ENGINEERS' CLUB OF MINNEAPOLIS.
Feb. 20. Secy., H. E. Smith, 1620 S. E. 14th St., Minneapolis, Minn.
WESTERN RAILWAY CLUB.
Feb. 21. Secy., F. M. Whyte, 225 Dearborn St., Chicago, Ill.
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
Feb. 21. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.
FRANKLIN INSTITUTE.
Feb. 21. "Progress in the Utilization of Garbage," Dr. Bruno Terne; "A Process for Testing Metals," Joseph Richards. March 8. "Some Features in the Structural Design of Buildings," Prof. Wm. H. Burr. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.
AMERICAN INSTITURE OF MINING ENGINEERS.
Feb. 21-25. Annual meeting, New York city. Secy., R. W. Raymond, P. O. box 223, New York city.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS'
Feb. 22. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.
MICHIGAN GAS ASSOCIATION.
Feb. 22-23. Annual meeting, Lansing, Mich. Secy., Henry H. Hyde, Saginaw, Mich.
ENGINEERING ASSOCIATION OF THE SOUTH.
Feb. 23. Secy., H. M. Jones, 1000 Broad St., Nashville, Tenn.
CANADIAN SOCIETY OF CIVIL ENGINEERS.
Feb. 23. Secy., H. C. McLeod, 112 Mansfield St., Montreal, Que.
CIVIL ENGINEERS' CLUB OF CLEVELAND.
Feb. 28. Secy., Wm. H. Searles, Case Library Building, Cleveland.
ASSOCIATION OF ONTARIO LAND SURVEYORS.
Feb. 28. Annual meeting, Toronto, Canada. Secy., A. J. Van Nostrand, Toronto, Canada.
FOUNDRYMEN'S ASSOCIATION (Philadelphia).
March 1. Secy., Howard Evans, Pier 45, N. Delaware Ave., Philadelphia, Pa.
AMERICAN SOCIETY OF CIVIL ENGINEERS.
March 1. Secy., C. W. Hunt, 220 West 57th St., New York city.
WESTERN SOCIETY OF ENGINEERS.
March 1. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.
BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
March 3. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
March 3. Secy., O. Van Geldern, 819 Market St., San Francisco, Cal.
ENGINEERS' CLUB OF ST. LOUIS.
March 5. Secy., E. R. Fish, 2401 N. Spring Ave., St. Louis, Mo.
ENGINEERING SOCIETY OF WESTERN NEW YORK.
March 6. Secy., H. J. March, Library Bldg., Buffalo, N. Y.
CIVIL ENGINEERS' SOCIETY OF ST. PAUL.
March 6. Secy., C. L. Annan, City Engineer's Office, St. Paul, Minn.
AMERICAN INSTITUTE OF ARCHITECTS (New York Chapter).
March 8. Chas. I. Berg, 215 W. 57th St., New York city.
AMERICAN INSTITUTE OF ARCHITECTS (New York Chapter).
March 8. Secy., Chas. I. Berg, 10 West 23d St., New York city.
BROOKLYN ENGINEERS' CLUB.
March 9. Secy., A. J. Provost, Jr., 191 Montague St., Brooklyn, N. Y.
ST. LOUIS RAILWAY CLUB.
March 10. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.
WISCONSIN STATE CHEMICAL ASSOCIATION.
March 10. Secy., I. Ladoff, 154 Knapp St., Milwaukee, Wis.
MONTANA SOCIETY OF ENGINEERS.
March 11. Helena, Mont. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.
THE LOUISIANA ENGINEERING SOCIETY.
March 13. Secy., J. F. Coleman, 712 Union St., New Orleans, La.
ENGINEERS' CLUB OF KANSAS CITY.
March 13. ecy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.
DENVER SOCIETY OF CIVIL ENGINEERS.
March 14. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Colo.
NORTHWEST RAILWAY CLUB.
March 14. Secy., T. A. Foque, Soo Line, Minneapolis, Minn.
NEW ENGLAND RAILWAY CLUB.
March 14. Secy., Edw. L. Janes, P.O. Box 1158, Boston, Mass.
RAILWAY SIGNALING CLUB.
March 14. Secy., C. O. Tilton, C. M. & St. P. Ry., West Milwaukee, Wis.
BOSTON SOCIETY OF CIVIL ENGINEERS.
March 15. Secy., S. E. Tinkham, City Hall, Boston, Mass.
WESTERN FOUNDRYMEN'S ASSOCIATION.
March 15. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.
ENGINEER'S CLUB OF CINCINNATI.
March 16. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.
SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.
March 16. Secy., F. A. Charpiot, P. O. Box 13, Savannah, Ga.
NORTHWESTERN TRACK AND BRIDGE ASSOCIATION.
March 17. Secy., D. W. Meeker, St, Paul, Minn.
WISCONSIN ENGINEERS' SOCIETY.
March 30. Annual meeting, Appleton, Wis., Secy., F. J. Harriman, Appleton, Wis.

BROOKLYN ENGINEERS' CLUB.—A regular meeting of this club was held on Feb. 9. Mr. Wm. P. Gerhard read a paper on "A Half Century of Sanitation."

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—The annual banquet of this society was held at the Hotel Schenley, Pittsburg, Pa., on Feb. 9, with fully 200 members and guests present.

ENGINEERING ASSOCIATION OF THE SOUTH.—In the future meetings of this society will be held on the second Thursday of each month, at the Berry Building, Nashville, Tenn. H. M. Jones, Secy.

BOSTON SOCIETY OF CIVIL ENGINEERS.—This society held its annual dinner at the Hotel Brunswick on the evening of Feb. 7. Fully 140 were present. Discussion of current topics of engineering interest followed the dinner.

THE WEST VIRGINIA SOCIETY OF CIVIL ENGINEERS AND ARCHITECTS.—The 4th annual meeting of this society, which was to have been held at Charleston, W. Va., Jan. 19-20, was postponed owing to the small attendance.

NEW ENGLAND WATER WORKS ASSOCIATION.—The February meeting of the association was held at the Parker House, Boston, on Feb. 8. The subject was "Low Land and Mechanical Filtration." An abstract of the remarks made is given in the body of this issue.

ENGINEERS' CLUB OF COLUMBUS.—The annual meeting of this club was held on Feb. 4. Routine business was transacted and the following officers elected for the ensuing year: Pres., Edward Orton, Jr.; First Vice-Pres., Prof. C. N. Barrow; Second Vice-Pres., H. A. Lanman; Secy., H. M. Gates; Treas., William Michel; directors, I. M. Wolverton and I. M. Bennett.

ARCHITECTUAL LEAGUE.—The annual meeting and banquet of this society was held in the galleries of the American Fine Arts Society, New York city, on Feb. 9. About 200 members were present. The dinner was followed by a discussion of the topic "The Relation of Art to the Municipality and the Duty of a Citizen, Through Art, to the Municipality."

MASTER CAR BUILDERS' ASSOCIATION AND AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—The annual conventions of these associations will be held at Old Point Comfort, Va., the former beginning June 14, the latter June 19. The Hotel Chamberlain has been selected as headquarters. Further particulars may be obtained from the secretary of both associations, Mr. Jno. W. Cloud, 774 Rookery, Chicago, Ill.

CHICAGO ELECTRICAL ASSOCIATION.—The following is the spring program of this society: Feb. 17, "Police and Fire-alarm Systems of Chicago" (illustrated with apparatus), Edward B. Endicott; March 3, "Patent Systems of the United States and Foreign System Compared," W. Clyde Jones; March 17, "Electric Street Lighting of Yesterday and To-day," Albert Scheible; April 7 (subject to be announced), Charles A. Brown; April 21, "The Adaptation of Electricity to Existing Steam Trunk Lines," W. D. Ray; May 5, "The Electric Protection of Safes and Vaults," Clyde J. Coleman; May 19, annual banquet.

FRANKLIN INSTITUTE.—The February-March program of the Institute is as follows:

Feb. 17. "Latest Development with X-Rays and Their Application," Prof. Arthur W. Goodspeed; "A Process for Testing Metals," Joseph Richards; Feb. 23. "Titaniferous Iron Ores," Prof. J. F. Kemp; Feb. 24. "Rambles Amid the Canyons, Caverns Chaussees of France," Rev. Horace C. Hovey; Feb. 28. "Some of the Larger Transportation Problems in Cities," Edward E. Higgins; March 8. "Some Features in the Structural Designs of Buildings," Prof. Wm. H. Burr; March 9. Discussion, "Mechanical Application of Compressed Air."

NEW ENGLAND ROADMASTERS' ASSOCIATION.—The annual meeting of this association will be held at Portland, Me., in August. The executive committee has selected the following subjects to be reported upon at that meeting: "How Shall the Right of Way be Maintained in a Tidy Manner, with Least Labor to Trackmen?" "The Most Efficient, Durable and Economical Form for Standard Snow Fence; also Best Form of Wire Right of Way Fence, Giving Size of Wire, etc." "What is the Proper Relation Between Weight of Rail and Weight of Rolling Stock? Assuming a Proper Relation Between Weight of Rail and Weight of Rolling Stock, What is the Most Economical Spacing of Ties?" "Chemical Treatment of Ties." "From a Maintenance of Way Standpoint, the Consideration of the Relative Merits for Ballast, of Stone or Gravel Sprinkled with Oil."

AMERICAN STREET RAILWAY ASSOCIATION.—At a meeting of the executive committee of this society, held in Chicago on Feb. 6, it was decided that the annual meeting would be held in Chicago on Oct. 17-20. The meeting will be held at Tattersall's, State and 16th Sts., where a floor space of 50,000 sq. ft. can be had for exhibition purposes. The last day of the convention has been set apart for a systematic examination of the exhibits by the delegates. Headquarters will be at the Auditorium Hotel. The following subjects were selected for discussion at the meeting:

"Maintenance of Car Equipment;" "Modern Street Railway Shops—Their Design, Machinery and Shop Practice;" "Train Service and its Practical Application;" "Construction and Maintenance of Street Railway Tracks;" "Investments in Street Railways—How Can They be Made Secure and Remunerative?" The report of the Committee on Rules for Employees will be fully discussed.

THE AMERICAN CERAMIC SOCIETY.—A meeting of those interested in that branch of science included under the name of ceramics was held at the Ohio State University, Columbus, O., on Feb. 6. The outcome of the meeting was the formation of the American Ceramic Society. The object of this organization is to promote the arts and sciences connected with ceramics, by means of meetings for the consideration of papers and for the publication of professional literature as well as for social intercourse. The following officers were elected for the ensuing year: Pres., H. A. Wheeler, St. Louis, Mo.; Vice-Pres., Ernest Mayer, Beacon Falls, Pa.; Secy., Edward Orton, Jr., Columbus, O.; Treas., Stanley R. Burt, Cincinnati, O. Papers were read at the evening session upon the following subjects: "The Use of Equivalent Weights in Ceramics," Chas. F. Binns; "The Independence of Burned Clay as a Decorative Building Material," Herman C. Mueller; "Practical Experience With Pyrometers," Dr. Wm. H. Zimmer; "Some Mechanical Aids to Kiln Burning," Gustav J. Holl; Discussion, "Cannot the Association Secure the Publication in English of the Works of Dr. Herman Seger."

ENGINEERS' CLUB OF ST. LOUIS.—The regular meeting of the society was held on Feb. 1, with 35 members and visitors present. Mr. H. S. Wilson read the paper of the evening, entitled the "Production of Seamless Tubing." The kinds and characteristics of the ore needed, and some of the requisite processes of its reduction to make the grade of steel necessary for drawing seamless tubes were considered. The various methods of getting the hole in the billet were explained, and the main characteristics of the more important machines used for this purpose were set forth. The annealing and pickling processes were described and the delicacy of the operation shown. The drawing benches, with their attendant drawing devices, the number of reductions necessary, the kinds of lubricants used, etc., were fully discussed, and interesting reasons for many troubles which arise were given. Mention was made of the great variety of grades and sizes of tubes and the care necessary to keep them separate in the factory. The processes for the production of lead, brass and copper tubes were also touched upon. Sketches on the blackboard illustrated graphically and clearly the various points, and a few samples showed how the reductions were made.

E. R. Fish, Secy.

CIVIL ENGINEERS' SOCIETY OF ST. PAUL.—A regular meeting of this society was held on Feb. 7. A verbal report of Committee on Naval Personnel Bill was accepted. Mr. Hogeland read a paper on "Locomotive Coaling Stations," in which was illustrated by drawings and photographs the evolution of coal handling for locomotive use on the Great Northern Ry. Beginning with the primitive derrick and bucket system which was worked at an expense of 17 cts. per ton, the various improvements, such as: Shoveling into chute pockets; dumping and chain conveying to chutes; and dumping directly into chute, the coal car being raised by a 15-HP. gasoline engine. The Great Northern moves 750,000 tons annually through chute pockets of 5 or 6 tons capacity at an average cost of 3 cts. per ton by measurement. Mr. Truesdell described the improvements at the St. Paul stock yards, 172 acres in extent, bounded on the river side by 1¾ miles of levee. The level of the yards is several feet below high water mark and has been flooded to the depth of 3 ft., but now the 5 river outlets may be closed by gates and pump wells have been provided in case of flood; 9 artesian wells supply water. Swift & Co.'s immense packing establishment and half a dozen minor firms are located on the site. Mr. Wilson displayed an exhibit of asphalts, crude and refined, and spoke briefly of the sources of asphalts and described the Trinidad, Bermudez, Kentucky, California and Utah deposits.

C. L. Annan, Secy.

NEW YORK ELECTRICAL SOCIETY.—A meeting of this society was held at the station of the Electric Vehicle Co., New York city, on the evening of Feb. 14. In the absence of Mr. G. Herbert Condict, the electrical engineer of the company, Mr. Crane described briefly the operation of the station equipment, after which the visitors formed into small parties and were piloted through the several departments. In this plant current for charging the batteries is taken from the street mains of the Edison Lighting Co., which are connected to a switchboard from which the various charging circuits are controlled. The battery boxes, or trays, contain 48 small chloride accumulators, manufactured by the Electric Storage Battery Co. They are placed upon tables which automatically connect them with the charging switchboard, and after about three hours are charged to 2.5 volts. Four voltages are used in this charging and those are called for automatically by the batteries, that is when the electromotive force of the battery reaches that of the first charging circuit a red light is automatically switched on. The same is true of the other voltages, the highest of which is 2.5 volts. When charged the trays are picked up by an ingenious elevator arrangement mounted upon a traveling crane and are carried forward to a horizontal chain conveyor table, upon which they are lowered. In the meantime the cab has run in the station and onto a platform directly in front of this conveyor. An arrangement of horizontal and vertical hydraulic pistons center the cab and raise the body to the level of the table. The door of the battery compartment is opened and a claw device on the end of a long piston clutches the end of the exhausted battery and draws it from the cab onto the chain conveyor. The conveyor is then moved along until the charged set is in position in front of the cab. The piston then advances, shoving the tray into the cab, the hydraulic adjusting pistons retreat and the cab is again ready for another run of 25 miles. The whole operation occupies a surprisingly short time, and the ordinary time of running in, removing the old set, placing new and running out is short of 2 minutes. When it is considered that the batteries weigh between 1,300 and 1,500 lbs., the operation of the apparatus can be better appreciated. After witnessing all the operations the visitors adjourned to an upper floor where an enjoyable luncheon was served.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—A special meeting of this society was held at the Society House, New York city, on Feb. 10, to discuss the subject of "Stone vs. Wood Dry Docks." The discussion was opened by Mr. Wm. L. Cathcart, late chief engineer U. S. N. and now Professor of Marine Engineering at the Academy of Naval Architecture, New York city. In the course of his remarks he said:

> The modern war vessel is practically helpless without the dry dock, in which she must be placed periodically for the cleansing of the hull and, with more or less frequency, for examination and repair. Of the 11 docks which our government now controls and operates, only four are of masonry, the remainder being timber constructions, and it is proposed further, in recent legislation, to build three more docks of wood. The practice of foreign governments differs widely from this. In Europe, not only national graving docks but all great modern works of this type are constructed of stone or concrete masonry. Our government is the only one in the world which has constructed, directly, a timber dry dock. The governments of Europe have considered it the policy of wisdom to build these important works of the most enduring materials, without regard to cost. This decision has been reached, doubtless, in view not only of the natural decay, the frequent repairs and the large expense thereof to timber dry docks, but, as well, because of the superior stability, permanence and safety of a dock which is built of stone or concrete.
>
> In view of the fact that for 10 years past our government has been practically committed to the policy of timber docks, having within that period built six of this material, and of the further fact that by recent legislation three more of these structures are authorized, the subject is presented for discussion by the members of this society. Our growth as a nation, with the results of the recent war, foreshadows an early and considerable increase in our force afloat. The defense of a coast line, extraordinary in extent, the acquirement of territory beyond the sea, which must be held—as it was won— largely by the navy, our probable entry into Asiatic politics, and the prospective revival of the merchant marine, which the fleet must lead and guard, all point to this. The full consideration of any factor, therefore, which is essential to our naval strength—as a trustworthy system of dry docks surely is—must be of interest not only to the engineer but to every man who has at heart the welfare of our fleet.

Commodore Geo. W. Melville, Engineer in Chief, U. S. N., and Chief of the Bureau of Steam Engineering of the Navy Department, spoke of the great future looming up as a result of our extension, which he said pointed with no uncertain hand to the nation's need in the early future of a strong force afloat and of maintaining the efficiency of that force. Continuing he said:

> A worthy system of dock construction is, in my view, a cardinal essential. I desire to place on record my opinion—as I have done in the past—with that of the Secretary of the Navy, with that of my colleague, Commodore Endicott, and with that of his predecessor, Admiral Mathews, as being opposed most strongly to the flimsy structures, costly in their weakness, which have been built as timber dry docks for the navy. As to the use of wood for the docks of private corporations I have nothing to say. It is plentiful and cheap, and the average draft of the merchant vessel is light and the structures less costly.

Commodore M. T. Endicott, Chief of the Bureau of Yards and Docks of the Navy Department, spoke briefly, supporting the views of the former speakers and advocating the stone or concrete form of dock in preference to the present timber construction, Mr. Endicott's recent report to Secretary Long was printed in our last issue.

NEW PUBLICATIONS.

LITERARY MAGAZINES.—The "Review of Reviews" for February has among its timely articles a character sketch of Aguinaldo, which gives a clearer account of the man and his curious life history than anything we have seen elsewhere. Mr. Henry McFarland tells of the work of the Army Signal Corps in the war, and states among other things that the sending up of the balloon on the skirmish line at Santiago was done against the express advice of the officer of the Signal Corps who was in charge. Prof. H. C. Adams, Statistician to the Interstate Commerce Commission, suggests that the present system or lack of system in the taxation of railway property by the states should be abolished and the Federal government should alone lay taxes upon railway property. He presents strong arguments in favor of this plan, and thoroughly proves, we think, that the change would be largely to the advantage of both the railways and the people. It would require very radical changes in the Constitution, however, to bring about such a change, and we can see hardly a remote chance that it could be brought to pass.

In "The Forum" Hon. Geo. E. Roberts, Director of the Mint, writes on "The Increasing Supply of Gold," and discusses the economic and financial changes as well as the political changes that are likely to result from the great increase in the world's stock of the precious metals that is now being made. Another "Forum" paper is by Dr. Walton Wyman, Supervising Surgeon of the Marine Hospital Service, on "Quarantine and Sanitation," and we would heartily recommend it to everyone interested in the task of preventing and checking the spread of disease and in legislation looking to that end. Dr. Wyman emphatically states that local sanitation should be left in local hands; that the work of state boards of health should be in supervising and fostering local work, and that the task of the general government should be the prevention of the entry of disease from foreign ports or its spread by interstate commerce. He explains the method of work of the Marine Hospital Service, which is in fact, though not in name, a national public health department. "Coaling Stations for the Navy" is the subject of a paper by Commander R. B. Bradford, U. S. N., who believes that the United States should possess a chain of coaling stations stretching clear around the globe.

In the January "North American Review" Mr. John Hyde, Statistician of the United States Department of Agriculture, discusses Sir Wm. Crookes' paper on the coming scarcity of wheat. He reviews in detail the prospects of increased wheat production in different portions of the country, and reaches the final conclusion that Mr. Crookes' estimate is a sound and conservative one, and that within a generation the United States will have so increased its own wheat consumption that it will have little or no margin left for export. Mr. Hiram Maxim writes on "High Explosives in Large Guns," describing the development of the modern smokeless powders. He presents an interesting argument to prove that with many smokeless powders, including the British "cordite," there is always a possibility that free nitro-glycerine may be distilled in the cartridge and cause detonation and consequent disaster. The proposition to free merchant vessels from the liabilities of capture in time of war is opposed by Commander Stockton, of the Naval War College. "Tuberculosis in the United States" and how it may be eradicated, is discussed by S. A. Knopf, M. D. He favors the establishment of local sanitariums for the treatment of tuberculous patients in all parts of the country, together with measures by the separate states to eradicate bovine tuberculosis.

In the "Fortnightly Review" for January we find a description of the proposed Tanganika railway, which the indefatigable Cecil Rhodes proposes to build from Buluwayo northward to the famous Central African lake, a distance of about 900 miles. It is stated in the article that the Buluwayo Ry., although so recently opened to traffic, is already making net earnings of $700,000 per annum. The estimated cost of the Tanganika Ry. is $10,000,000, and it is said to be altogether likely that the scheme will be carried through.

In the February "Century," Mr. F. C. Penfield describes the great dam which is to be built across the Nile at Assuan, the site of the First Cataract. The dam will be a solid masonry structure raising the water level 40 ft. and setting back the river above for a distance of 140 miles. The total length of the dam will be nearly a mile and a quarter. The reservoir thus formed will contain, it is estimated, 250,000,000,000 gallons of water and will increase the irrigable area of Egypt by 2,500 sq. miles. At the site of the dam a solid ledge of granite extends across the river and furnishes an ideal foundation for the dam, which is to be built throughout of granite ashlar masonry quarried near its site. The contractor for the work is to receive $800,000 a year for 30 years, the payments to begin when the entire work is completed and turned over to the Egyptian Government. At the present time the preliminary engineering work upon the structure is in progress, and a single order for 3,000,000 barrels of

Portland cement is in process of delivery. In the same magazine Walter Wellman writes an article dated at Franz-Josef Land, Aug. 2, 1898, where at Cape Tegetthoff, in lat. 80.06 N. the Wellman polar expedition has built the most northerly inhabited house in the world. In the "Century's" new war series this number contains Lieut. Hobson's account of his life in Morro Castle, and Gen. Shafter's story of the capture of Santiago. Other articles in the same magazine which may interest our readers are a comparison of foreign and American consular systems by Geo. McAneny, and "The United States Army Ration in the Tropics," by L. L. Seaman, Maj.-Surgeon, First Regt., U. S. Vol. Engineers.

The February "Cosmopolitan" contains a paper on "City Subways for Pipes and Wires," by Henry F. Bryant, in which the pros and cons of the question are fairly discussed. "Scribner's" leading article is the second installment of Gov. Roosevelt's story of the Rough Riders. In the "Pall Mall Magazine" we find a description of "European Military Ballooning." The writer considers that France is in the lead in the propelling and steering of balloons, but is far behind England and Germany in methods of transporting gas and their system in general is defective in being too complicated. In "Appleton's Popular Science Monthly" the labor problem in the tropics is discussed by Mr. W. A. Ireland, and gives us some idea of one of the knotty questions which we are likely to have to cope with as a nation in the near future.

SEWAGE DISPOSAL IN CONNECTICUT.—Report of the Sewage Commission to the General Assembly of the State of Connecticut, January Session of 1899. Robert A. Cairns, C. E., Secretary, Waterbury. Paper; 6 x 9 ins.; pp. 88; four illustrations.

An extended abstract of this report is printed on another page of this issue.

PROCEEDINGS, NEW ENGLAND ROADMASTERS' ASSOCIATION.—Published by the Association; Secy., F. C. Stowell, Ware, Mass. Paper; 6x9 ins.; pp. 107.

This report contains the full text of the papers and discussions presented at the annual meeting held Aug. 17 and 18, 1898. The full list of these reports was published in Engineering News Supplement of July 28, 1898.

PROCEEDINGS, ASSOCIATION OF RAILWAY SUPERINTENDENTS OF BRIDGES AND BUILDINGS.—Pub. by the Association; Secy., S. F. Patterson, Concord, N. H. Paper; 6x9 ins.; pp. 282; illustrated.

This report contains in full the business proceedings, papers and discussions of the convention of 1898 at Richmond, Va., which were given in abstract in Engineering News of Oct. 27, 1898.

AIR LIFT DIAGRAM.—We have received from Mr. Geo. L. Dillman, M. Am. Soc. C. E., 722 Montgomery St., San Francisco, Cal., a diagram for use in air lift pump calculations. It is about 11 × 8 ins., with the depths of submergence as ordinates and the heights of lift as abscissas. There are 16 curves for as many different values of the variable, n, in the formulas given on one corner of the diagram for finding the value of different factors.

NOTES ON RAILROAD BRIDGE CONSTRUCTION.—By Henry Goldmark, M. Am. Soc. C. E. Published by the author; paper; 6 x 9 ins.; pp. 9.

This is the reprint of a lecture delivered before the engineering society of the University of Michigan in February, 1898. The author traces the development of railway bridge construction and outlines present and accepted practice in the design and construction of culverts, trestles, wooden bridges and iron bridges of various sorts for railway service.

ANNUAL REPORT, NORTH CAROLINA STATE RAILROAD COMMISSION.—L. C. Caldwell, John H. Pearson, D. H. Abbott, Commissioners. Pub. Doc.; cloth; 6 x 9 ins.; pp. 591.

This report contains the full text of the amended "Railroad Commission Act," and also the Commissioner's standard freight and passenger tariffs, rules governing transportation of freight, live stock, etc., and other rules and regulations which it has promulgated to govern the business of the railways and their relation to the commission and state.

THE BEHAVIOR OF RAILWAY VEHICLES IN PASSING THROUGH CURVES.—By Franz Hoffmann. Translated from the German by A. Bewley. Public Works Department, India; Madras; paper; 8 x 13 ins.; pp. 55; illustrated.

This is an elaborate mathematical discussion of the action of railway vehicles in passing curves, and should prove interesting to students of that subject who are used to reasoning in three-line equations. For the majority of American railway engineers the discussion has little practical value, since it deals almost entirely with the four-wheeled cars used in European countires.

AMERICAN STREET RAILWAY DIRECTORY AND BUYERS' MANUAL.—E. L. Powers & Co., 150 Nassau St., New York city. Pamph.; 6 x 9⅛ ins.; pp. 100.

This is the November issue of the "American Street Railway Directory," a quarterly publication containing a large amount of data of value to manufacturers and dealers in street railway apparatus and supplies. With this issue is introduced an alphabetical list of the street railway officials of the United States, and a list of tramways and light railways in countries outside of the United States and Canada, both of which are valuable additions, especially from the standpoint of the supplyman.

ANNUAL REPORT, CONNECTICUT STATE RAILROAD COMMISSION.—Washington F. Wilcox, Wm. A. Seymour, A. R. Fyler, Commissioners. Pub. Doc.; cloth; 6 x 9 ins.; pp. 600; map.

The total railway mileage of the state is 1,008.25 miles, and during the year covered by the report the earnings per mile of road was $7,929 per passenger traffic and $8,098 per freight traffic. This is an increase in freight earnings, and a decrease in passenger earnings. With a large increase in gross earnings, the increase in net earnings is small on account of the heavy increase in operating expenses. Dividends were paid on about 62% of the capital stock.

THE SUPERINTENDENT OF BRIDGES AND BUILDINGS.—By Onward Bates, M. Am. Soc. C. E. Published by the University of Wisconsin, Madison, Wis.; paper; 6¼ x 9¾ ins.; pp. 26.

This is a reprint of a lecture delivered by Mr. Onward Bates before the students of the University of Wisconsin. Mr. Bates outlines briefly the duties of Superintendents of Bridges and Buildings on American railways, the organization of their departments, the inspection, repair and emergency rebuilding of bridges, and gives many valuable practical hints and suggestions, which his long experience as an engineer and superintendent in charge of bridge and building work on a large railway system make especially valuable.

A NATIONAL DEPARTMENT OF SCIENCE Necessary for the Co-ordination of the Scientific Work of the United States Government. The National University a Growth; not a Creation.—By Charles W. Dabney, Jr. Two pamphlets; 7¼ x 10¼; pp. 13, 12; Reprinted from "Science" of Jan. 15 and Mar. 5, 1897.

The first of these papers discusses the objections to the present lack of co-ordination among the several bureaus of the departments which have under their charge the scientific work of the government, and urges the merging into one scientific department of the work of the National Observatory, the Coast and Geodetic Survey, the Geological Survey, the Weather Bureau, the National Museum, the Forestry Bureau and the Fish Commission, together with a proposed statistical agency, which should include the Census Bureau. The second pamphlet presents an argument in favor of establishing a national university.

COMMERCIAL TRAVELING IN SOUTH AMERICA.—By Wm. E. Torrens. Circular of Information No. 29, of the National Association of Manufacturers of the United States of America, Philadelphia, Pa. Paper; 6 x 9 ins.; pp. 54.

This report embodies the observations made during business trips to South America. It is intended to give points upon the qualifications required of a commercial traveler in foreign countries; methods of selling; the transport of samples and the laws in this connection; important preliminaries to travel; dating and discounts; classes of buyers in various parts of South America; orders and contracts; and some details of business in Brazil, Uruguay, Argentine Republic, etc. The report is filled with really valuable information to the man proposing to do business in South America; and in addition to the items noted above, Mr. Torrens treats of the best routes and the cost of a five-months' trip along the East coast, from Pernambuco to Buenos Ayres. He puts this cost for hotels and traveling expenses from New York and back again at $843.

ANNUAL REPORT, MAINE STATE RAILROAD COMMISSION.—Joseph B. Peaks, Benj. F. Chadbourne, Frederick Danforth, Commissioners. Pub. Doc.; cloth; 6 x 9 ins.; pp. 412; map.

The report proper of the Commission takes up only the first 58 pages of the volume, the remainder being devoted to the statistics of operation of individual roads and decisions, petitions, certificates and other routine work. During the fiscal year covered by the report 26.53 miles of new railway were added to the mileage in the state, but since June 30, 1898, there has been completed the Washington County R. R., 118 miles long, and several short lines, which bring the present total railway mileage of the state up to 1,872.8 miles. Passengers and freight traffic both show an increase in amount over the previous year, but gross earnings have decreased. In reference to this the report says: "The falling off in earnings might naturally be attributed to the carrying of passengers and freight less distances." The number of accidents was greater than in 1897, five passengers being killed and 100 injured. Four deaths and 82 injuries resulted from derailments.

There was an increase during the year of 25.72 miles in the street railway mileage of the state. The earnings from street railways show an increase in both net and gross earnings. There was also an increase in the percentage of operating expenses to earnings, which during 1898 was 71%. A total of 14,651,161 passengers was carried by street railways and only one person was killed and 14 injured.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 8 1-2 x 6 ins.; 6 x 9 ins., and 9 x 12 ins.)

DROP FORGINGS.—J. H. Williams & Co., Brooklyn, N. Y. Pamph.; 4¼ x 7 ins.; pp. 40; illustrated.

This is a catalogue of drop forged tools, appliances and special shapes manufactured by the firm named.

THE 20TH CENTURY MOVEMENT.—American Electric Vehicle Co., Chicago, Ill. Pamph.; 6 x 6 ins.

This little pamphlet calls attention to the rapid introduction of motor vehicles and illustrates several types of the company's vehicles.

CONNECTORS, TERMINALS AND SPECIALTIES.—The C. McIntire Co., Newark, N. J. Pamph.; 6½ x 5¾ ins.

This small pamphlet briefly describes the copper electrical specialties such as connectors, splices and fuse links manufactured by this company.

AMERICAN ELECTRICAL DIRECTORY AND BUYERS' MANUAL.—Central Lighting Stations.—E. L. Powers & Co., Publishers, 150 Nassau St., New York city. Pamph.; 6 x 9¼ ins.; pp. 136.

This is number 3 of the 6th volume, dated September 30, 1898. An idea of its contents is given by the title.

TILLINGHAST'S DISINFECTANT.—The Autozone Chemical Co., 229 Front St., New York. 3 x 5 ins.; pp. 6.

This pamphlet describes a disinfectant and deodorizer which is stated to be "a compound heavily laden with oxygen and chlorine gases held in solution."

EXCAVATING MACHINERY.—The Hayward Co., New York, N. Y. Pamph.; 9 x 6 ins.; pp. 59; illustrated.

This pamphlet describes the application of the above-named company's special types of orange-peel and clamshell buckets to various forms of excavating and coal handling machinery.

MACHINE TOOLS AND SHOP EQUIPMENT.—Chas. E. Billin & Co., 1543 Marquette Building, Chicago. Paper covers with loose sheets inserted.

This contains a list of second-hand machinery for sale, and particulars of some of the tools and machines for which this firm is agent.

GAS AND GASOLINE ENGINES.—The Weber Gas & Gasoline Engine Co., Kansas City, Mo. Pamph.; 9 x 6 ins.; pp. 64; illustrated.

This pamphlet describes the various forms of Weber internal combustion engines constructed separately and also combined with pumps, hoists, etc., of various styles.

THE MODEL GAS AND GASOLINE ENGINE.—The Garrett Engine, Boiler and Machine Works, Garrett, Ind. Pamph.; 8¾ x 5¾ ins.

This is an illustrated pamphlet setting forth the features of a new type of gas engine which is guaranteed by the makers not to exceed 10 cu. ft. of gas per 1. HP. hour.

FOOT AND POWER PRESSES.—Ferracute Machine Co., Bridgeton, N. J. One sheet; 18 x 24 ins.

This is a large sheet, printed in colors, and evidently intended for posting on the wall of a machine shop. It contains photographic illustrations of 31 different styles of power presses.

STEAM AND ELECTRIC HOISTING ENGINES.—C. W. Hunt Co., New York city. Pamph.; 6½ x 9¼ ins.

This pamphlet is numbered 9902, and contains illustrations and descriptions of hoisting apparatus for use in connection with coal-hoisting and handling machinery and various forms of dredges and steam shovels.

ROCK CRUSHERS.—The Comet Crusher. Frazer & Chalmers, Chicago, Ill. Pamph.; 6 x 9 ins.; pp. 30

The "Comet" crusher is a sort of rotary Blake crusher, the crushing head being a frustum of a cone carried on a vertical spindle and moving to and fro and around an inverted frustum with crushing liners which forms the hopper.

AN IMPROVED TRANSFORMER.—Moloney Electric Co., St. Louis, Mo. Pamph.; 6 x 9 ins.

This is a descriptive circular calling attention to a type of transformer, claimed by the makers to embody all the factors necessary for a perfect transformer. The pamphlet also contains a set of instructions for testing transformers which is worth preserving.

ROAD MAKING MACHINERY.—The Indiana Road Machine Co., Fort Wayne, Ind. Paper; 6¼ x 3¼ ins., 6¼ x 3¼ ins., and 9½ x 12½ ins.; pp. 24, 56 and 4.

These publications are devoted to descriptions and testimonials of the company's road graders, drag and wheel scrapers, grading plows, and stone crushers, and also of a portable plant combining a stone crusher, elevator and screen.

EIGHT-POLE MOTORS AND GENERATORS FOR DIRECT CURRENT.—B. F. Sturtevant Co., Boston, Mass. Circular; 8 x 10½ ins.; bulletin No. 1.

This circular briefly describes a type of electric motor designed for operating direct-connected, exhaust, blower or other types of fans. An illustration and dimensional table of Sturtevant automatic single upright engines and 8-pole generators is given.

DRAWING MATERIALS AND SURVEYING INSTRUMENTS.—The Frederick Post Co., 218 South Clark St., Chicago, Ill. Paper; 6 x 9 ins.; pp. 165. 50 cts.

This is a comprehensive catalogue and price list of drawing materials of all kinds, and mathematical surveying and engineering instruments. The latter include several forms of transits, Y and dumpy levels, and a builder's level. Two forms of section liners are also shown.

DOMESTIC WATER FILTERS.—Weir Filter Co., 63 Fifth Ave., New York. 3 x 6 ins.; pp. 16; illustrated.

This pamphlet describes the Weir Aerating and Self-Cleansing Filter. A dome above the filter forms an air chamber in which the water pressure serves to compress air. After drawing filtered water from the apparatus the compressed air causes a reverse flow through the filter cylinder. An automatic valve admits a fresh supply of air.

BALL PULVERIZING MILL.—Frazer & Chalmers, Chicago, Ill. Pamph.; 6 x 9 ins.; pp. 8.

This pamphlet describes a mill for fine pulverizing which has been used with great success on gold and silver ores and other materials. It is a horizontal barrel of steel plate, with cast-iron ends, and revolving on trunnions. Within the barrel are placed hard white iron balls. The material is charged through one trunnion and discharged through the other.

MINING, TUNNELING AND QUARRYING MACHINERY.—The Ingersoll-Sergeant Drill Co., New York. Pamph.; 6 x 9 ins.; pp. 104.

This is a handsomely printed and illustrated catalogue of the various kinds of mining and quarrying machinery manufactured by the above-named company. Besides the descriptions of the different machines, much information is given regarding their operation and the best methods of handling and caring for them.

THE ATLANTIC CITY "FLYER."—General Passenger Department, Philadelphia & Reading R. R., Philadelphia, Pa. Paper; 8 x 5¼ ins.; pp. 16.

This little pamphlet contains illustrations and descriptions of the famous "Flyer," which last summer ran regularly between Camden and Atlantic City, the schedule time being 50 minutes for 55½ miles. The train despatcher's sheets for July and August are given, showing average speeds of 64 to 74 miles per hour.

SKETCH BOOK.—20th Century Sketch Book for Schools, etc. M. H. Avery, Woonsocket, R. I. 50 leaves in block form; 5½ × 8½ ins. 25 cts.

The peculiar feature of this "sketch book" is a scale of inches divided to 16ths around each edge of the sheet. One style of the book is made in which each page, in addition to the lineal scales, has a 90° protractor, 4¾-in. radius, divided into half degrees printed on each page. This is useful in sketching bevel gears.

JACKS.—A. O. Norton, 167 Oliver St., Boston, Mass. Paper; 3½×6¼ ins.; pp. 32.

This is a catalogue and price list of the various forms of the Norton ball-bearing jacks for railway, street railway, car, bridge, track and general work, which are operated by a ratchet movement with "pump handle" lever. They are of 10 to 70 tons capacity, and among the specialties are cone-bearing jacks, which are said to be as good as the ball-bearing type for capacities up to 15 tons.

THE DIAMOND DRILL AND ITS WORK.—American Diamond Rock Drill Co., New York, N. Y. Pamph.; 7 × 10 ins.; pp. 48; illustrated.

This is an unusually instructive descriptive pamphlet of the construction and operation of diamond drilling machinery and the work which it can do. Various forms of drilling machines for prospecting, mining, submarine and other classes of work are described and illustrated in detail. We do not recall a more satisfactory trade pamphlet on this subject.

BOILERS AND ENGINES.—The Murray Iron Works Co., Burlington, Ia. Paper; 6 × 9 ins.; pp. 72.

This catalogue shows a great variety of boilers, horizontal and vertical, for supplying steam to engines and heating systems. There are also horizontal and vertical engines. Among the specialties is a portable engine with boiler, mounted on an iron frame with wheels and intended for saw-mills and well drilling plants. Heavy hoisting engines, vertical refrigerating engines, and the Murray rocking grate are also shown.

STEAM BOILERS.—The Sederholm Boiler. Frazer & Chalmers, Chicago, Ill. Pamph.; 6 × 9 ins.

This pamphlet illustrates and describes the "Sederholm" boiler, which is a peculiar-looking modification of the horizontal tubular boiler, designed to overcome one of the chief objections to the latter, viz., the direct action of the flame on the thick shell of the boiler. It accomplishes this by placing transversely under the shell a number of smaller drums, with their sheets, and connecting them by curved tubes to the shell above.

ENGINEERING AND SURVEYING INSTRUMENTS.—W. & L. E. Gurley, Troy, N. Y. Cloth; 4½ × 7 ins.; pp. 438; illustrated. 50 cts.

This is the 31st edition of the well-known "manual" of engineering and surveying instruments, which is published by the firm named, and it contains the usual ample descriptions of the various instruments, instructions for their care and adjustment, and tables and other data useful to surveyors and engineers. The scope and accuracy of these various features are familiar to engineers.

STEEL HIGHWAY BRIDGES.—The Hamilton Bridge Works Co., Hamilton, Ont. Pamph.; 8½ × 5¾ ins.

This pamphlet is devised especially to acquaint highway commissioners and other municipal officials not engineers with the advantages of employing metal instead of wooden bridges, giving comparative figures and rules, suggestions and general advice respecting the selection of bridges for different conditions. Illustrations of a variety of large bridges and buildings which the company has built concludes the pamphlet.

POWER PUMPING MACHINERY.—The Stillwell-Bierce & Smith-Vaile Co., Dayton, O. Pamph.; 8 × 7 ins.; pp. 70.

This is a finely illustrated catalogue (of an unhandy size for filing), describing a great variety of duplex and triplex pumps, driven by belt or other gearing, by electric motors, water wheels, etc. Several new designs are shown. We notice especially an interesting combination of a horizontal triplex pump, cut gearing, and an electric motor, all mounted on a hand car, for use in mines.

DUMP CARS AND TRACK APPLIANCES.—The Buda Foundry & Mfg. Co., Harvey, Ill. Paper; 4½ × 6¾ ins.; pp. 119.

This catalogue shows a variety of forms of dump cars, hand cars, push cars, etc., for railway work. Also crossing gates, switchstands and a varied line of track tools and appliances, wrecking frogs, etc. One of the specialties is a portable device for straightening angle bars that have become bent, thus enabling the track men to put up low joints without using new bars or sending old bars to the shops to be straightened.

PUNCHING AND SHEARING MACHINERY.—The Long & Allstatter Co., Hamilton, O. Paper; 6 × 9 ins.; pp. 124.

A great variety of machines, for light and heavy work, are illustrated by line engravings, and briefly described. Some are driven by belting, while others have steam engines or electric motors mounted on the framing. Beam coping and punching machines are shown and angle-iron shears mounted on turntables. Some of the machines are fitted with automatic feed and spacing tables. Bending and forming machines, drop and helve hammers, and a side-grinding machine for stone working, are also shown.

ROLLER BEARINGS, ROLLING, PRESSING AND STAMPING MACHINERY.—Mossberg & Granville Mfg. Co., Providence, R. I. Pamph.; 6 × 9 ins.; pp. 230.

This is a handsomely-printed catalogue of drop, foot and power presses, dies, rolling mills, wire machinery and special tools of the Mossberg & Granville Mfg. Co., which is the successor to the Mossberg Mfg. Co. We notice on p. 192 of the catalogue a table of the "dynamic force exerted by drop-press hammers," which is entirely new to us. It is said to give "the force produced by a solid, compact iron body, weighing 1 lb., falling freely through space." No satisfactory explanation of this table is given.

CORLISS ENGINES.—The Murray Iron Works Co., Burlington, Ia. Paper; 9 × 6 ins.; pp. 64.

The company has a large machine shop devoted exclusively to the manufacture of the Sioux Corliss engine, formerly made by the Sioux City Engine Works, and it is said that 75 % of the Corliss engines between the Mississippi River and the Rocky Mountains are of the Sioux pattern. Special advantages are claimed for certain features of the design, and the engines and their various parts are described and illustrated in detail. They are made in horizontal and vertical types, simple or compound, the compounds being either of the cross or tandem pattern.

RAILWAY EQUIPMENT, BRIDGES, ETC.—A. S. Males & Co., 413 Vine St., Cincinnati, O. Paper, 3½ × 6 ins.; pp. 74 and 8.

This firm deals in all kinds of new and second-hand equipment, and its catalogues contain descriptions of a great variety of material now on hand, including over 100 locomotives, ranging from a 7-ton switch engine to a 60-ton twelve-wheeler, besides various narrow-gage and geared engines. Passenger, dining and freight cars, steam shovels, turntables, hoisting engines and about 40 bridge spans are also on the list, dimensions and weights being given in each case. The smaller catalogue is a supplementary one.

ICE AND REFRIGERATING MACHINES.—The Murray Iron Works Co., Burlington, Ia. Paper; 7 × 10 ins.; pp. 46.

These machines are made in various sizes, with capacities of 1 to 100 tons, and the refrigerating is effected by ammonia or brine circulation. The machines are mainly vertical, driven by vertical or horizontal engines. The time of freezing for ice is given as 20 hrs. for 50-lb. blocks to 60 hrs. for blocks of 200 to 400 weight. Besides the use of these machines for manufacturing and storage purposes, it is noted that one has been installed at the Cook County morgue in Chicago, in order to maintain good sanitary conditions.

THE WESTINGHOUSE STANDARD ENGINE.—A BIRD'S-EYE VIEW OF OUR BUSINESS.—The Westinghouse Machine Co., Pittsburg, Pa. Pamphs.; 9 × 6¾ ins., and 3¼ × 6 ins.; pp. 55; illustrated.

The first-mentioned of these pamphlets describes in detail the Westinghouse standard engine, pointing out its field of application, economy and the materials and workmanship employed in its manufacture. Constructional details are shown by a series of excellent half-tones. In conclusion attention is called to "other products" of the company, such as compound engines, junior engine, engines of 1,000-HP. and upwards, Westinghouse gas engines, the Roney stoker and ice-making and refrigerating machinery.

The small pamphlet contains a series of small halftone illustrations of Westinghouse apparatus.

IRON AND STEEL WORKING MACHINERY.—The Niles Tool Works Co., Hamilton, O. 8vo. cloth; pp. 571.

The shops of the Niles Tool Works, at Hamilton, have 15 acres of floor space under roof, making, it is claimed, the largest works in the world devoted exclusively to the manufacture of machine tools. The present catalogue illustrates and describes the full line of tools, machines and fixtures made by the company. It is divided into 30 parts, describing the tools of as many different classes. The catalogue is one of the most satisfactory machine tool catalogues we have yet seen. It is a well bound book, of a convenient size of page, and the cuts and descriptions of the machines convey just the information that is likely to be needed by the purchaser, without any attempt at decorative typography or illustrations, wide margins or tinted paper.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work. Place.	See Eng. News.
Feb. 16.	Bridge to Blissville, Brooklyn, N. Y.	Feb. 9
Feb. 16.	Concrete dam, Columbus, O.	Feb. 9
	Advertised, Engineering News, Feb. 9.	
Feb. 16.	Laying water mains, New York, N. Y.	Feb. 9
Feb. 16.	Boat house and armory, Annapolis, Md.	Jan. 26
Feb. 16.	Court house, Buckingham, W. Va.	Jan. 19
Feb. 16.	Electric installation, Fort Point, Tex.	Jan. 19
	Advertised, Eng. News, Jan. 19 to Feb. 16.	
Feb. 16.	Macadamizing, Decatur, Ind.	Jan. 12
Feb. 16.	Removing garbage, Meriden, Conn.	Feb. 16
Feb. 16.	Brick paving, Scranton, Pa.	Feb. 16
Feb. 17.	Asphalt paving, Philadelphia, Pa.	Feb. 16
Feb. 17.	High-school building, Lawrence, Mass.	Feb. 16
Feb. 17.	School building, etc., Chicago, Ill.	Feb. 16
Feb. 17.	Bridge work, St. Joseph, Mo.	Feb. 16
Feb. 17.	Light fixtures, Savannah, Ga.	Feb. 9
Feb. 18.	Street grading, etc., Cleveland, O.	Feb. 9
Feb. 18.	Steel towers and end spans, New York	Feb. 9
	Advertised, Engineering News, Feb. 9.	
Feb. 18.	Water-works, Spring Lake, N. J.	Jan. 26
	Advertised, Eng. News, Jan. 26 and Feb. 2.	
Feb. 18.	Boiler house, Philadelphia, Pa.	Feb. 2
Feb. 18.	Water pipe, Malden, Mass.	Feb. 16
Feb. 18.	Water bonds, Watertown, Mass.	Feb. 16
Feb. 20.	Manufacturing plant, Moline, Ill.	Feb. 9
Feb. 20.	Water pipe, etc., Bloomington, Ind.	Feb. 16
	Advertised, Engineering News, Feb. 16.	
Feb. 20.	Bridge, Rockford, Ill.	Feb. 2
	Advertised, Engineering News, Feb. 2.	
Feb. 20.	Park work, Boston, Mass.	Feb. 2
Feb. 20.	Paving, etc., Anderson, Ind.	Feb. 2
Feb. 20.	Brick and asphalt paving, Geneva, N. Y.	Feb. 2
	Advertised, Eng. News, Feb. 2 to 16.	
Feb. 20.	Water-works, Elkhart Lake, Wis.	Jan. 26
Feb. 20.	Lift bridge near Taylor St., Chicago, Ill.	Dec. 29
	Advertised, Engineering News, Dec. 29.	
Feb. 20.	Stone heads, Newark, N. J.	Jan. 19
	Advertised, Eng. News, Jan. 19 to Feb. 9.	
Feb. 20.	Buoys, etc., Tompkinsville (S.I.), N. Y.	Jan. 19
	Advertised, Eng. News, Jan. 19 and 26.	
Feb. 20.	Bridge abutments, Boston, Mass.	Feb. 9
Feb. 20.	Boiler, repairing hull, etc., New York	Feb. 9
Feb. 20.	Valves, plugs, etc., Victoria, B.C.	Feb. 9
Feb. 20.	Sewers, Albany, N. Y.	Feb. 9
Feb. 21.	Heating, plumbing, etc., Newport, R. I.	Feb. 9
Feb. 21.	Pile platform, Boston, Mass.	Feb. 9
	Advertised, Eng. News, Feb. 9 and 16.	
Feb. 21.	Pumping plant, Honolulu, H. I.	Jan. 12
	Advertised, Eng. News, Jan. 12 and 19.	
Feb. 21.	Cement and stone, Tybee Island, Ga.	Jan. 26
	Advertised, Eng. News, Jan. 26 to Feb. 9.	
Feb. 21.	Macadam road, Longport, N. J.	Feb. 2
	Advertised, Engineering News, Feb. 2.	
Feb. 21.	School building repairs, New York	Feb. 16
Feb. 21.	Electric wiring, South Omaha, Neb.	Feb. 16
Feb. 21.	Electric wiring, Newport, R. I.	Feb. 16
Feb. 21.	Paving, cement, sand, etc., New York	Feb. 16
Feb. 22.	Brick paving (17 blocks) Bedford, Ind.	Jan. 26
Feb. 22.	Jail building, Alexandria, La.	Jan. 19
Feb. 23.	School building, Flandreau, S. Dak.	Feb. 2
Feb. 23.	Marble, iron work, etc., Detroit, Mich.	Feb. 9
Feb. 23.	Gun stocks, Springfield, Mass.	Feb. 9
Feb. 23.	Heating, ventilating, etc., Kansas City, Mo.	Feb. 9
	Advertised, Eng. News, Feb. 2 and 9.	
Feb. 23.	Brick paving, etc., Fulton, N. Y.	Feb. 9
Feb. 23.	Park work, New York, N. Y.	Feb. 16
Feb. 23.	Water-works, Bemidji, Minn.	Feb. 16
Feb. 23.	Road roller, New York	Feb. 16
Feb. 23.	Sprinkling wagon, etc., New York, N. Y.	Feb. 16
Feb. 23.	Culvert bridges (2), Albany, N. Y.	Feb. 16
Feb. 24.	Sewers, Cleveland, O.	Feb. 16
Feb. 24.	Brick and stone paving, Minneapolis, Minn.	Feb. 16
Feb. 24.	Bridge, Hamilton, O.	Feb. 2
Feb. 24.	Water department supplies, Cleveland, O.	Feb. 2
Feb. 24.	Brick paving, grading, etc., St. Louis, Mo.	Feb. 16
Feb. 25.	Court house, Douglass, Ga.	Dec. 29
Feb. 25.	Street work, Cincinnati, O.	Jan. 26
Feb. 25.	School building, Cleveland, O.	Feb. 9
Feb. 25.	Removing garbage, Allentown, Pa.	Feb. 16
Feb. 25.	Pumping machinery, Whitehall, Ill.	Feb. 16
Feb. 25.	Heating, plumbg, etc., E. Cambridge, Mass.	Feb. 16
Feb. 25.	College building, Grinnell, Ia.	Feb. 16
Feb. 26.	Porcelain insulators, Christiana, Norway	Jan. 19
Feb. 27.	Iron bridges (2), Monticello, Mo.	Feb. 2
Feb. 27.	Brick paving, Portsmouth, O.	Feb. 9
Feb. 27.	Masonic temple, Wilmington, N. C.	Feb. 16
Feb. 27.	Gas lighting, Vincennes, Ind.	Feb. 16
Feb. 27.	Electric lighting, Vincennes, Ind.	Feb. 16
Feb. 27.	Water pipe, Windsor, N. Y.	Feb. 16
	Advertised, Engineering News, Feb. 16.	
Feb. 27.	School building, New York, N. Y.	Feb. 16
Feb. 28.	School building, Ponca, Neb.	Feb. 16
Feb. 28.	Gas plant, Darlington, Okla. Ter.	Feb. 9
Feb. 28.	Pipe sewers, Steelton, Pa.	Feb. 9
	Advertised, Eng. News, Feb. 9 to 23.	
Mar. 1.	Dust-cart designs, London, England	Jan. 5
Mar. 1.	Court house, Arkadelphia, Ark.	Jan. 5
Mar. 1.	Railway and highway bridge, Quebec, Que.	Jan. 12
	Advertised, Eng. News, Sept. 29 and Oct. 6.	
Mar. 1.	Electric lighting, Spartanburg, S. C.	Jan. 26
Mar. 1.	Water pumps, etc., Bilbao, Spain	Feb. 2
Mar. 1.	Paving bonds, Bridgeport, O.	Feb. 2
Mar. 1.	Broken stone, etc., Fort Hamilton, N. Y.	Feb. 2
	Advertised, Eng. News, Feb. 2 to 23.	
Mar. 1.	Turbine, Sault Ste. Marie, Mich.	Feb. 9
Mar. 1.	Sewers, Mount Pleasant, Mich.	Feb. 9
Mar. 1.	Water-works, Oto, Iowa.	Feb. 9
	Advertised, Eng. News, Feb. 9 and 16.	
Mar. 1.	Water-works, Mount Pleasant, Mich.	Feb. 9
Mar. 1.	Laying water pipe, Amsterdam, N. Y.	Feb. 9
	Advertised, Eng. News, Feb. 9 to 23.	
Mar. 1.	Road work (5 miles), Batavia, O.	Feb. 9
Mar. 1.	Road bonds, Scottsboro, Ala.	Feb. 16
Mar. 3.	Sewers, etc., Keshena, Wis.	Feb. 16
Mar. 3.	Roads (10), Bedford, Ind.	Feb. 9
Mar. 3.	Trunk sewer, Cincinnati, O.	Feb. 9
Mar. 3.	Sewers, Cleveland, O.	Feb. 9
Mar. 4.	Officers' quarters, San Francisco, Cal.	Feb. 9
Mar. 4.	Quarrying stone, etc., Washington, D. C.	Feb. 9
	Advertised, Engineering News, Feb. 9.	
Mar. 4.	Brick paving, etc., Cleveland, O.	Feb. 9
Mar. 4.	Brick paving, Washington, D. C.	Feb. 2
	Advertised, Engineering News, Feb. 2.	
Mar. 4.	Bridge, Villagrove, Ill.	Feb. 16
Mar. 6.	Sewers, Woonsocket, R. I.	Feb. 2
	Advertised, Eng. News, Feb. 2 and 9	
Mar. 6.	Iron flagstaffs (6), St. Louis, Mo.	Feb. 9
Mar. 6.	Electric plant, Fort Preble, Me.	Feb. 9
	Advertised, Eng. News, Feb. 9 to Mar. 2.	
Mar. 6.	School building, Eau Claire, Wis.	Feb. 9
Mar. 6.	Water-works, Jamesburg, N. J.	Feb. 16
Mar. 7.	Heating and ventilating, Camden, N. J.	Feb. 16
	Advertised, Eng. News, Feb. 16 and 23.	
Mar. 7.	Brick paving, etc., Cleveland, O.	Feb. 16
Mar. 7.	Water-works, Allison, Ia.	Feb. 16
Mar. 7.	Street cleaning, Cleveland, O.	Feb. 9
Mar. 7.	Water pipe, Everett, Mass.	Feb. 9
	Advertised, Engineering News, Feb. 9.	
Mar. 7.	Asphalt paving, Joplin, Mo.	Feb. 9
Mar. 8.	Wharf, Rock Point, Md.	Feb. 9
	Advertised, Eng. News, Feb. 9 to Mar. 2.	
Mar. 8.	Water bonds, McConnellsville, O.	Feb. 9
Mar. 8.	Electric plant, Halifax, N. S.	Feb. 16
	Advertised, Eng. News, Feb. 16 and 23.	
Mar. 9.	Sewers, Norfolk, Va.	Feb. 16
	Advertised, Eng. News, Feb. 16 to Mar. 2.	
Mar. 9.	Bridge, Shreveport, La.	Feb. 9
Mar. 10.	Sewers, Cleveland, O.	Feb. 16
Mar. 10.	Portland cement, New York, N. Y.	Feb. 16
	Advertised, Eng. News, Feb. 16 to Mar. 9.	
Mar. 10.	Cement, iron beams, etc., Baltimore, Md.	Feb. 16
	Advertised, Eng. News, Feb. 16 to Mar. 9.	
Mar. 10.	Ornamental iron work, New York	Feb. 16
	Advertised, Eng. News, Feb. 16 and 23.	
Mar. 10.	Bridge, Cleveland, O.	Feb. 16
Mar. 11.	School building, Wheaton, Minn.	Feb. 16
Mar. 11.	Reservoir, Washington, D. C.	Feb. 9
	Advertised, Engineering News, Feb. 9.	
Mar. 11.	Road work, Woodbury, N. J.	Feb. 9
	Advertised, Eng. News, Feb. 9 and 16.	
Mar. 12.	Electric light plant, Manlius, N. Y.	Jan. 12
Mar. 14.	Drainage ditch, Ponca, Neb.	Feb. 9
Mar. 14.	Wooden bridges, Loup, Neb.	Feb. 9

Mar. 14	Plumbing, Fort Hamilton N. Y. Advertised, Eng. News, Feb. 16 to Mar. 9.	Feb. 16
Mar. 14	Paving, etc., Cleveland, O.	Feb. 16
Mar. 15	Light-house, Baltimore, Md. Advertised, Eng. News, Feb. 16 and 23.	Feb. 16
Mar. 15	Metal work, Baltimore, Md. Advertised, Eng. News, Feb. 16 and 23.	Feb. 16
Mar. 15	Exhibition buildings, Glasgow, Scotland	Feb. 16
Mar. 15	Main sewer, Cleveland, O. Advertised, Eng. News, Feb. 16 and 23.	Feb. 16
Mar. 15	Water-works, Fayetteville, Tenn. Advertised, Eng. News, Feb. 9 and 16.	Feb. 9
Mar. 15	Barracks, etc., San Francisco, Cal.	Feb. 9
Mar. 15	Purchase of water-works, Belem, Brazil	Dec. 1
Mar. 15	Electric r'y (23 miles), Shanghai, China Advertised, Eng. News, Nov. 17 to Dec. 8.	Nov. 24
Mar. 15	Bridges (3), Joliet, Ill. Advertised, Engineering News, Jan. 19.	Jan. 19
Mar. 15	Court house plans, Wilkesbarre, Pa.	Jan. 26
Mar. 27	Court house, Leesville, La.	Jan. 26
Mar. 31	Telephone concessions, Shanghai, China Advertised, Eng. News, Nov. 17 to Dec. 8.	Nov. 24
Apr. 1	Viaduct substructure, St. Joseph, Mo.	Jan. 5
Apr. 1	Opera house, Columbus, Ga.	Jan. 19
Apr. 3	Pumps (2), Winnipeg, Man.	Feb. 9
Apr. 4	Sewerage system, Clayton, N. Y.	Feb. 2
Apr. 6	Dredging boat, Sabine Pass, Tex.	Feb. 9
Apr. 10	Bridges (2), Chicago, Ill.	Feb. 16
Apr. 14	Hall building, Bradford, England.	Jan. 19
June 1	Plans for market, Leeds, England	Feb. 16
No date	Cement plant, Baltimore, Md.	Feb. 16
"	Capitol building, Phoenix, Ariz.	Feb. 9
"	Railroad (40 miles), Ft. Dodge, Ia. Advertised, Engineering News, Feb. 2.	Feb. 2
"	Railway (100 miles), St. Louis, Mo.	Feb. 16
"	Water meters, Glens Falls, N. Y.	Feb. 16
"	Bridge, Bucharest, Roumania	Feb. 16

RAILWAYS.

ARKANSAS SOUTHERN.—C. C. Henderson, Gen. Mgr., Junction City, Ark., informs us that the Arkansas Southern R. R. Co. and the Alexandria, Junction City & Shreveport R. R. Co. will be consolidated on Feb. 23 under the name of the Arkansas Southern R. R. The projected length is 285 miles from El Dorado, Ark., to Sabine City, via Junction City, Ruston and Boyce, La., and Orange, Tex. Trains will be run between El Dorado and Ruston, La., by July 1. J. W. Brown, Pres., Camden, Ark.; M. P. Jackson, Ch. Engr., Junction City.

BARCLAY.—This company is said to propose the extension of its system from Greenwood to Canton and Cedar Ledge, Pa., about 16 miles, provided that the right of way be granted. Surveys are being made. I. O. Blight, Supt., Towanda, Pa.

BELLINGHAM BAY & BRITISH COLUMBIA.—J. J. Donovan, Ch. Engr., New Whatcom, Wash., informs us that the preliminary survey has been completed and location is in progress for the proposed 10-mile extension of this line into the timber district in Whatcom county, Wash. No contracts have been let yet. P. B. Cornwall, Pres., 450 Main St., San Francisco, Cal.

BIRMINGHAM SOUTHERN.—This company was incorporated in Alabama, Feb. 6, with a capital stock of $600,000, to connect and extend the various coal and iron railways owned by the Tennessee Coal, Iron & R. R. Co. The incorporators are N. Baxter, Jr., J. Bowron, A. M. Shook and G. B. McCormack, all of Birmingham, Ala.

CHICAGO, ROCK ISLAND & PACIFIC.—This company will spend about $100,000 in Council Bluffs, Ia., during the coming season in the improvement of its yards, the erection of new steel bridges, a roundhouse and a $30,000 station.

CLEVELAND, CANTON & SOUTHERN.—Chas. A. Peabody, of Boston, and H. K. Pomeroy, of New York, bought this railway at a public sale in Cleveland, O., Feb, 4, at $1,950,000.

COLUMBUS, WESTON & JACKSON.—This company has been incorporated in Ohio with a capital stock of $2,000,000, to build through Jackson, Vinton, Hocking, Pickaway, Fairfield and Franklin counties. The incorporators are: W. H. Stevenson, J. O. Curry, J. L. Clark, W. C. Fish.

COPPER RANGE.—Surveys are said to be in progress for this proposed line from Houghton to Rockland, Mich., about 50 miles, in which Paine, Webber & Co., 27 State St., Boston, are said to be interested. Thomas Appleton, Ch. Engr., Houghton, Mich.

COTTAGE GROVE & BOHEMIA.—This company was incorporated in Oregon, Feb. 1, with $500,000 capital stock, to build a railway to the Bohemia mines, Lane county. W. H. Oglesby, Robert Clow and G. F. Skipworth are incorporators.

DAKOTA SOUTHERN.—Reports state that the Great Northern Ry. Co. will build this line, as an extension, from Huron to Wheeler, S. Dak., via Beadle, Sanborn, Aurora, Douglas, Charles and Mix counties, about 100 miles, and thence across the Missouri River to the Black Hills.

DAN RIVER.—A. H. Patton, Welch, W. Va., a promoter of this new line of railway, informs us that the rights of way have been obtained, and the capital for construction and equipment secured. Work on the grade was to have begun about Feb. 15 and continued until completed, requiring about five months. The route is from Mount Airy, N. C., to the "Pinnacles of Dan," 12 miles.

DENMARK.—Vice Consul Blom, Copenhagen, has stated that several new railways are projected in Denmark, and that he understands that it is contemplated to send some orders for American locomotives. Manufacturers should address H. C. Petersen & Co., Industribyguing, Copenhagen, Denmark. The railways in Denmark use rails weighing 45 and 75 lbs. a yard, and spikes, bolts and fish plates; not the so-called "chairs." The Danish State railways are 1,725 kilometers (1,089 English miles) and the private railways 642 kilometers (399 English miles) in length. Heretofore the locomotives have all been imported from Germany.

DES MOINES, MOULTON & ALBIA.—This company was incorporated in Iowa, Feb. 10, with a capital stock of $200,000, to build an extension to the Wabash R. R. from Moulton to Albia, Ia., a distance of about 27 miles. The incorporators are: O. D. Ashley and John C. Otteson, of New York; Joseph Ramsey, Jr., Bryant C. Winnison, W. S. Lincoln, Wells A. Blodgett and D. S. O'Leary, of St. Louis, Mo.

INDIANA, DECATUR & WESTERN.—The Peoria, Decatur & Evansville Ry. Co. has sold its Chicago & Ohio River branch to this company, running from Sidney to Olney, Ill., about 86 miles. It was originally intended to connect Chicago and Henderson, Ky., and the new management, it is said, will now continue the work and extend the line to its projected terminus. M. D. Woodford, Pres., Cincinnati, O.

LITTLE ROCK & GULF.—This company was incorporated in Arkansas, Feb. 9, with a capital stock of $1,800,000, to construct a railway through the counties of Union, Brinkley, Calhoun, Dallas, Cleveland, Grant, Saline and Pulaski, a distance of 120 miles. The incorporators are: A. B. Banks, J. G. Pattilo, J. E. Hampton, J. F. Erwin, G. W. Smith, E. A. Acrumen, Charles McKee, Fordyce, Ark.; Oscar Davis, J. B. Jones, W. A. Bright.

MOORE COUNTY & WESTERN.—W. B. Elkhart, Supt., Aberdeen, N. C., informs us that negotiations are now in progress for buying eight miles of rails, and that eight miles of roadbed have already been graded and tied. The length of route from Aberdeen to Concord, N. C., is 85 miles. H. L. Thurston, Ch. Engr., Southern Pines, N. C.

PASADENA & MOUNT WILSON.—A bill has been referred to the committee on public lands of the U. S. Senate providing for the granting to this company of the right of way for nine miles of railway through the San Gabriel Forest Reserve, Cal.

PATTEN, ALLEGASH & NORTHERN.—A bill has been introduced into the legislature of Maine providing for the incorporation of this company with power to construct and operate a railway from Patten, the terminus of the Patten & Sherman R. R., north to Allegash, Me., on the St. John River. Those interested are: A. A. Burleigh, P. P. Burleigh and others, of Houlton, Me., all officers of the Patten & Sherman R. R. Co.

PITTSBURG, LAKE ERIE & CHICAGO.—The officers of this company met with the board of commerce at Oberlin, O., Feb. 8, and considered the construction of this proposed line through Sandusky, Akron, Oberlin and Alliance, O. Sandusky has pledged $100,000 for terminal facilities. J. McKelvey is said to be the chief promoter.

QUEEN ANNE'S.—Wade, Burns & Co., Baltimore, Md., are reported to have been awarded the contract for building the proposed extension of this railway from Lewes to Rehoboth, Md. I. W. Troxel, Gen. Mgr. and Ch. Engr., Queenstown, Md.

RIVERSIDE & FAIRVIEW.—This company has been incorporated in West Virginia, with a capital stock of $500,000, to build from Riverside to Fairview, W. Va., up Paw Paw Creek. N. B. Hair, C. E. Reed and Frank Hayden, of Fairmont, W. Va., are incorporators.

RUTLAND-CANADIAN.—We are informed that O'Brien & Sheenan, 258 Broadway, New York, have been awarded the contract for constructing about 50 miles of railway from Burlington, Vt., north, as advertised in Engineering News, at $459,000. The tabulated bids are given under Contract Prices. John W. Burke, Ch. Engr., 45 Broadway, New York.

ST. LOUIS & NORTHERN SHORT LINE.—Wm. E. Guy, Pres. of the Laclede Construction Co., Security Bldg., St. Louis, Mo., informs us that 100 miles of railway work on this line from Peoria to East Clinton, Ill., is ready to be let. This company was incorporated in Illinois, Feb. 2, with a capital stock of $25,000,000, and is said to be a branch of the St. Louis, Peoria & Northern Ry. Co., J. N. Faithron, Pres., St. Louis, Mo.

STOCKTON & TUOLUMNE COUNTY.—R. S. Clarke, Secy., Grand Hotel, San Francisco, Cal., informs us that this line has been surveyed to the Stanislaus River. Construction work has been suspended for some months; fifteen miles have already been graded, and grading work is expected to be resumed very soon. The route is from Stockton to Summerville, Cal., via Copperopolis and Sonora, 60 miles. Mrs. Annie Kline Rikert, Pres., San Francisco.

TEXAS, WESTERN & CIRCLE BELT.—A. B. Donaldson, Pres., Gainesville, Tex., informs us that the surveys have been made, the right of way obtained and most of the capital secured for this proposed line from Gainesville to Abilene, via Era, Decatur, Bridgeport, Graham and Albany, Tex., 210 miles. Contracts are to be let within the next 30 days. James Guinn, Ch. Engr., Gainesville.

UNION PACIFIC.—Reports state that this company expects to buy the 155 miles of railway between Julesburg and La Salle, Colo., and that it will relay 44 miles of the same and ballast the roadbed with Sherman gravel.—— This company is also reported to have contracted for about $1,000,000 worth of new equipment to be delivered by July 1.

UTAH, NEVADA & CALIFORNIA.—This company has been incorporated in Utah, with $5,000,000 capital stock, by C. M. Dull and A. E. Kimball, Salt Lake City, Utah; A. C. Cleveland, Cleveland, Nev., and others. It is proposed to build a line from Milford, Utah, on the Utah Short Line, to Vanderbilt, Cal., a distance of 245 miles.

WHEELING & LAKE ERIE.—This railway was sold under foreclosure at Toledo, O., Feb. 7, to Ernest R. Adee and A. W. Krech, representing the reorganization committee, for $1,000,000.

YANKTON, NORFOLK & SOUTHWESTERN.—W. W. Graham, Norwalk, O., has bought this line at auction at Pierce, Neb., for $45,000. Mr. Graham was one of the contractors who started to build the railway in 1897, and he will probably complete the work.

STREET AND ELECTRIC RAILWAYS.

NASHUA, N. H.—The Nashua St. Ry. Co. has decided to extend its line this spring from the present terminus on Main St. to the state line. J. H. Fischer, Pres., 85 Kinsley St.

AMESBURY, MASS.—The Amesbury & Hampton St. Ry. Co. has been organized, with a proposed capital stock of $40,000, to build 4½ miles of street railway from Amesbury to Salisbury. The incorporators are: Wallace D. Lovell, 143 Federal St., Boston; Edward R. Briggs, Amesbury, and others.

BOSTON, MASS.—The Pencoyd Iron Works, 27 State St., Boston, was awarded the contract Feb. 8 for the construction of the elevated structure on Washington St., from Castle to Bartlett St., and on Main St., Charlestown, from City Square to Bunker Hill St., requiring about 5,550 tons of iron in Roxbury and 2,750 tons in Charlestown, a total distance of 13,870 ft. Bids were also received from the Edgemoor Bridge Works, King Bridge Company, New England Structural Company, Boston Bridge Works, New Jersey Steel & Iron Co., Carnegie Steel Co. and the Pennsylvania Steel Co. The contracts include the structure only, and not foundations, tracks nor stations, and amount to nearly $500,000. With the exception of the Atlantic Ave. loop, practically the entire system is now under contract, the Dudley St. terminal having been awarded to the Pennsylvania Steel Co., and the Charlestown Bridge to the Carnegie Co.. The work is to be completed on or before Oct. 1. Bids for the construction of the remaining portions of the system will soon be asked, and work upon all the different sections completed as rapidly as possible. Geo. A. Kimball, Ch. Engr., 101 Milk St.——J. F. Shaw, Brookline, Mass.; E. P. Shaw, State Treas.; P. W. Sprague, N. S. Myrick and others have petitioned the legislature for a charter for the International Construction & Power Co., which proposes to build and operate railways, electric light plants, etc., in this state, Porto Rico, etc.

BROCKTON, MASS.—The Brockton, Bridgewater & Taunton St. Ry. Co. is said to contemplate the building of an extension from the Raynham town line to connect with the railway in West Bridgewater. T. Ellerby, Ch. Engr., Bridgewater.

CLINTON, MASS.—The selectmen granted a franchise to the Clinton & Hudson St. Ry. Co. Feb. 6 to lay tracks to the Berlin line. Work is expected to be completed by May 1. W. R. Dame is interested.

HINGHAM, MASS.—It is reported that the selectmen will soon be formally petitioned by the Hingham St. Ry. Co. for an increased location for a double track from Broad Bridge to Hingham over North and Rockland Sts. to the Hull line. The plan also includes an extension in Hull to the beach.

LEXINGTON, MASS.—A franchise has been granted to the Lexington & Boston St. Ry. Co., for a line in this town. It is reported that the company intends to extend its lines from Arlington Heights to Billerica, where connection can be made with the electric railway for Lowell and completing a line from Boston to Lowell. The Lexington road also proposes to connect Lexington and Waltham with a line which will meet the Newton.

NEWTON, MASS.—The board of aldermen has received petitions for locations in new streets from the following companies: The West Roxbury & Newton Co. for locations in Baker, Dedham, Parker, Boylston and Beacon Sts.; the Commonwealth Ave. Co., Cypress, Centre and Boylston Sts.; the Newton Co., from Lexington St. through Rumford Ave., Auburndale; the Newton & Boston Co., for a turnout on Walnut St., Newtonville; the Wellesley & Boston Co., through Beacon and Lincoln Sts.; the Newton & Boston Co., for locations in Chestnut Hill Ave., Beacon, Cypress, Paul and other streets.

UXBRIDGE, MASS.—The selectmen of Uxbridge have granted the Blanchard Bros. Granite Co. the right to build and operate a freight railway from its granite quarry to the Consolidated Ry.

CANTON, CONN.—Senator Goodrich has introduced a resolution in the Senate incorporating the Canton, New Hartford & Northwestern Tramway Co., to have a capital stock at first of $50,000, with power to build from the Farmington and Avon town line northeasterly to Cherry Park, thence to Canton, Collinsville, New Hartford, Burrville, Pleasant Valley and Riverton. The incorporators are: John A. Crilley, L. A. Davidson, George D. Curtis and A. H. Merrill, Hartford, Conn.; Ariel Mitchelson, Tariffville; H. R. Cross, Avon; George T. Mathewson.

PUTNAM, CONN.—Surveys are being made, according to reports, for the new electric street railway to be built for the People's Tramway Co., between Putnam and Providence. F. A. Jacobs, Pres., Danielsonvillle, Conn.; Lewis & Claflin, Engrs., Providence, R. I.

BROOKLYN, N. Y.—The Brooklyn Rapid Transit Co. has decided to increase its capital stock from $20,000,000 to $45,000,000, to be used in part to purchase control of the Nassau Electric R. R. Co. C. L. Rossiter, Pres., 168 Montague St.

MASSENA, N. Y.—The Massena Electric St. Ry. Co. was incorporated, Feb. 6, with a capital stock of $100,000, to construct eight miles of line from the Massena Springs Station, through the town of Massena to a point on the St. Lawrence River. The directors are: Thomas H. Gillespie, R. A. Johnson, E. M. Stathers, Howard Hasbrouck, Edward M. Dolan, Thomas D. Harris, Willard A. Esselstyn and James H. Jones, of New York; Robert Swan, Massena.

NEW YORK, N. Y.—The Metropolitan St. Ry. Co. has been granted permission by the State railroad commission to change its motive power on certain streets to underground electricity.

SCHENECTADY, N. Y.—The Schenectady St. Ry. Co. has voted to issue $77,000 in bonds for the improvement of its system. W. H. White, Pres.; F. Davis, Ch. Engr.

SAYREVILLE, N. J.—The Sayreville Electric Light & Power Co. has petitioned the township committee for a franchise to build a trolley line from Sayreville to Perth Amboy. Sayre & Fisher, Sayreville, are said to be interested.

POTTSVILLE, PA.—It is reported that a new trolley line is now being staked out between Pottsville and Heckscherville Valley, via Fishbach, Mount Laffe and Mine Hill Gap.

SPRING CITY, PA.—Surveys have been completed for the Montgomery & Chester Electric Ry. Co.'s branch from Phoenixville to this city, and it is said that work will soon be commenced by the Fairmount Construction Co., 723 Walnut St., Philadelphia, Pa. George F. P. Wagner, Ch. Engr., Pottstown, Pa.

WASHINGTON, D. C.—A bill has been favorably reported to the Senate authorizing, under the name of the Washington City Railway Co., the consolidation; equipment with the underground electric system in the city and overhead double trolley in the country, and an extension from Connecticut Ave. and Philadelphia St. west and north to the District line, of the following lines: Anacostia & Potomac River; Capital Ry., Brightwood Ry., Washington, Woodside & Forest Glen Ry. & Power Co, City & Suburban Ry. Co., Eckington & Soldiers' Home Ry., and the Belt line. I. T. Crosby is largely interested.

ATLANTA, GA.—It is reported that the Atlanta Ry. Co. is preparing to begin work on its proposed extensions, and that new rails and equipment will soon be bought. T. Woodruff, Pres. and Mgr. George R. Webb, Baltimore, Md., is interested.

BESSEMER, ALA.—W. T. Kennedy has petitioned the council for a franchise to construct an electric street railway, the terminals of which would be at the works of the American Pipe & Foundry Co., the mines of the Sloss Iron & Steel Co. back of Bessemer, Jonesboro and Brighton.

NEW ORLEANS, LA.—The New Orleans & Carrollton R. R. Co. is said to contemplate the relaying and improvement of its tracks and roadbed from Howard Ave. to Carrolton and on Napoleon Ave.; estimated cost, between $100,000 and $200,000. J. K. Newman, Pres.

JACKSON, MISS.—F. G. Jones, Pres. of Jackson Electric Ry., Light & Power Co., Memphis, Tenn., informs us that the capital for constructing a 5-mile line of electric railway in Jackson has been secured, and that the company is doing its own work. All contracts are said to have been let and rolling stock purchased. This company has also acquired the gas and present electric plant, and is putting in a new light and power plant. It has a contract to light the city for 25 years.

CAMBRIDGE, O.—The Cambridge & Byesville Electric Ry. Co. has been incorporated with a capital stock of $20,000, to build a line from Cambridge to Senacaville, via Byesville and Pleasant City. A. E. Townsend, Cambridge; L. Loeb and Henry Loeb, of Columbus, O., are the promoters.

COLLINWOOD, O.—The council has granted the Lake

View & East Cleveland St. R. R. Co. the right to construct and operate a street railway in this village. L. A. Hall, Mayor.

DAYTON, O.—The following contracts are said to have been awarded by the Dayton & Xenia Traction Co.: The Carnegie Steel Co., and the Johnson Steel Co., for the rails; the Westinghouse Electric & Mfg. Co., for dynamos, motors and all electrical apparatus; the American Electric Works, of New York, for all copper; the New Castle Bridge Co., for the bridges; the Chase Construction Co., Detriot, Mich., who built the Dayton & Western, and the Craighead Engineering Co., Cincinnati, O., for the poles, overhead work, bonding and tracks; E. Pfeifer & Co., Washington C. H., O., for ties. The ties and rails are now being delivered at Xenia. The grading in Montgomery county has also been let.

EAST LIVERPOOL, O.—Jas. R. Zollinger, of Louisville, Ky., is said to be making the surveys for the proposed electric line between this city and Lisbon. The promoters are: Timothy Dwight, Chicago; H. G. Foltz, Herkimer, N. Y., and J. L. Francis, East Liverpool.

LORAIN, O.—Parks Foster, of Elyria, O., is said to be interested in a project to build an electric railway from Lorain to North Amherst.

XENIA, O.—The Xenia & Spring Valley Transit Co. has been incorporated with $5,000 capital stock to build between these cities. The incorporators are: C. J. Ferneding, O. O. Ozier, J. M. Wilson, H. F. Terneding, Philip A. Kemper.

CAMBRIDGE CITY, IND.—The Cambridge City Inter-Urban Traction Co., is being organized by local capitalists and others, with $50,000 capital, to connect Cambridge City with Milton, Dublin, East Germantown and Hagerstown.

INDIANAPOLIS, IND.—The commissioners of Marion county have granted another 50-year franchise over the National Road to D. P. Erwin, David M. Parry and D. M. Ransdell, who contemplate the building of an electric railway, which will first be constructed to Bridgeport. The right of way is granted from the city limits to the west county line. Work must be commenced by Sept. 1; to be completed by September, 1901.

DETROIT, MICH.—It is announced that the Detroit, Ypsilanti & Ann Arbor Electric Ry. Co. has decided to take out a mortgage for $1,000,000, of which $400,000 will be used for extensions and improvements. J. D. Hawks, Pres. and Ch. Engr., Peninsula Bank Bldg.

LANSING, MICH.—The Lansing, Dexter & Ann Arbor Electric Ry. Co. is said to have awarded the contract for the construction of its proposed line to Westinghouse, Church, Kerr & Co. The route is 60 miles in length. R. J. Shank and C. A. Mapes, of Lansing, and L. C. Chase, Dansville, Mich., are directors.

PORT HURON, MICH.—The Port Huron, Lexington & Western R. R. Co. is a company which proposes to connect Port Huron with Lexington and Bay City. Edgar L. Brennan, Toledo, O., is the promoter.

MOLINE, ILL.—The council has granted a franchise to the Tri-City St. Ry. Co.

STREATOR, ILL.—The council granted a 30-year franchise to Cary C. Barr, Feb. 6, to build, equip and operate a street car line in this city. The lines will connect with the interurban road to be constructed between this city, Ottawa and La Salle.

ST. LOUIS, MO.—Contracts are about to be let for the construction of the Wellston, Creve Coeur & St. Charles Electric R. R., and it is expected to have the line completed to St. Charles within 60 days. J. D. Houseman, Jr., Gen. Mgr.

MAPLEWOOD, MO.—The Maplewood & Jefferson Barracks R. R. Co. has filed a petition with the commissioners of St. Louis county for a franchise to run a double track line between Maplewood and the Barracks. Among those interested are: J. T. Donovan, J. T. McDermott, Michael Hammell, Joseph E. McGinnis and H. J. Webber.

FORT WORTH, TEX.—Reports state that the Glenwood & Polytechnic College St. Ry. Co. has purchased the Arlington Heights Ry. and will make a number of important improvements. J. T. Voss, Pres. and Mgr.

LOS ANGELES, CAL.—The Los Angeles Electric Ry. Co. has been incorporated with a capital stock of $1,000,000, to construct and operate any kind of street railway within the counties of Los Angeles, San Bernardino, Riverside and Ventura. The incorporators are: I. W. Hellman, J. Kuhrts, Charles Seyler, F. M. Nickell, Frank A. Gibson and others.

ST. CATHARINES, ONT.—A. B. Colvin, Glens Falls, N. Y., J. A. Powers, Lansingburgh, N. Y., and others, are said to have applied for a franchise to build a line in this city with an extension to Port Dalhousie.

CHIHUAHUA, MEX.—A concession for the construction of an electric street railway at Chihuahua has been granted to Federico Sismiega, Julio Meyer and Salvador Arellano. It is reported that the company will not introduce electric motive power at once, but will continue the line with mule service. New cars will be ordered and new rails laid.

ELECTRIC LIGHT AND POWER.

SKOWHEGAN, ME.—The Bombazee Water Power Co. is reported as considering the question of developing the water power on the Kennebec River, near this place. F. G. Danforth, Pres.; O. F. Hall, Clk.; F. W. Spaulding, of Norridgewock, Me., and W. M. Ayer, of Oakland, Me.

BILLERICA, MASS.—Walter A. Drucker is reported to have been granted a franchise for lighting the town.

NEWPORT, R. I.—Bids are asked until Feb. 21 for furnishing the materials and for installing a system of wiring and gas piping in the city hall. J. D. Johnston, Arch., 60 Mill St.; L. Shanteler, Chn. Comn.

MIDDLETOWN, CONN.—The council has been asked to construct a municipal plant.

NEWARK, N. Y.—The Newark Electric Light & Power Co.'s franchise will expire next year. It is stated that the company has been in the hands of a receiver and that the service has been poor. Two new companies, represented by Daniel P. Smith, Pres. First National Bank, and Wm. A. Roe, of the Wayne County Milling Co., and C. P. H. Vary and E. K. Busham, have been granted franchises.

RICHMONDVILLE, N. Y.—The people of this place will soon vote on the question of putting in a plant.

CLAYTON, N. J.—The Gloucester City Electric Light Co., Gloucester, N. J., has been granted a franchise for lighting this place.

FRANKLIN, N. J.—The Nichols Electric Light, Heat & Power Co., of Nutley, N. J., has applied for a franchise to light this place.

SEABRIGHT, N. J.—The New York & New Jersey Telephone Co., 15 Dey St., New York, is reported to have been awarded the contract for laying electric light wires at $2,452. The only other bid was from the Standard Underground Cable Co., 18 Cortlandt St., New York, at $2,738.

ERIE, PA.—Our correspondent informs us that the State St. electrical conduit built last summer at an expense of $10,000 is still unused, not a wire having been taken off State St. It is understood from councilmen that the city engineer wants an expert brought here to determine if another conduit is necessary for high tension wires. When the present conduit was built it was supposed it would do for both low and high tension wires, but now the city authorities claim that only low tension wires can be placed in the ducts.

WAVERLY, PA.—It is stated that the Waverly Electric Light Co. will build a new plant.

DOVER, DEL.—The question of municipal electric lighting is being considered. E. L. Clarke, Pres. Council, and John Hutton may be addressed.

LONACONING, MD.—Estimates for furnishing electric supplies for the plant of the Home Electric Light Co. are wanted by John Somerville, according to reports.

EMPORIA, VA.—The citizens of this place have had surveys made of the water power on the Meherrin River at this town for the purpose of inducing capitalists to construct a plant.

LYNCHBURG, VA.—J. M. B. Lewis, Secy. Bd. Electrical Control, writes us that applications for the position of city electrician were wanted until Feb. 15. No new plant is proposed.

PETERSBURG, VA.—The Electric Ry. & Development Co., of Richmond, Va., has practically acquired the Petersburg street railway property, and in addition to running that line the company will furnish power and light to private parties. R. Lancaster Williams, Richmond, may be addressed.

KANAWHA CITY, W. VA.—Press reports state that the Morgan-Gardner Electric Co., 2638 Shields Ave., Chicago, is making preparations to erect a plant to supply power to the mines of the Belmont, Kanawha, Splint, Riverside, and Big Mountain Coal companies. A submarine cable will be laid across the Kanawha River to the mines, which are on the opposite side of the river from the new power plant.

HICKORY, N. C.—Press reports state that the J. M. Odell Mfg. Co. has purchased the water power on the Catawba River and will erect a plant, cotton mill, etc.

TARBORO, N. C.—The legislature will soon be asked to grant this place authority to issue $50,000 in bonds for a plant, sewerage system and water works.

WILMINGTON, N. C.—B. F. Keith, Wilmington, wishes to sell or lease the Colly Mill Water Power, about 30 miles from here. A building, 200×36 ft., has already been erected, and money is wanted to furnish the machinery.

HICKORY, S. C.—Wm. C. Whitner, Anderson, S. C., and W. G. Wylie, Rock Hill, S. C., have applied for a charter for the Catawba Power Co. It is proposed to build a plant at Indian Hook shoals, York county, S. C.

ROME, GA.—D. B. Hamilton, Jr., Chn. Com., writes us that he wishes to secure more information at once for a municipal plant.

EVERGREEN, ALA.—The legislature has been asked to grant this place authority to issue bonds for a plant and water-works.

WETUMPKA, ALA.—This place has asked the legislature for authority to issue $10,000 in bonds for a plant, water-works, etc.

JACKSON, MISS.—F. G. Jones, Pres. Jackson Electric Ry., Light & Power Co., Memphis, Tenn., writes us that the company has purchased the gas and electric plants here, and is putting in a complete equipment. It has a 25-year contract to light the city.

GRAYSON, KY.—Peter Brown writes us that it is not likely that a plant will be built here for some time.

MARION, IND.—Mead & Co., it is stated, propose to increase the power of its plant by the addition of a 100-HP. engine.

VINCENNES, IND.—Bids are asked until Feb. 27 for lighting the public streets and buildings for 10 years with 175 arc lights and 200 gas lamps. The electric service will begin April 29, 1900. A 20-year franchise will be granted. Bryan & Humphrey, Engrs., St. Louis, Mo.; Chas. Langel, Cy. Clk.

ZEELAND, MICH.—Lewis W. Hartwick, Village Clk., writes us that the question of building a plant has been dropped.

PEARL CITY, ILL.—J. J. Feas, Village Clk., writes us that the board has not yet drawn up an ordinance authorizing the construction of a plant.

PEORIA, ILL.—The people of South Peoria are considering the question of electric lights. August Kneer, Trustee.

ROCK ISLAND, ILL.—The contract for lighting this city for five years has been let to the People's Power Co. at $15,024 a year for 202 high and low lights.

MADELIA, MINN.—The city recorder writes us that nothing has yet been done towards securing a plant.

SACRED HEART, MINN.—This place is reported as considering the question of building a plant.

REDCLOUD, NEB.—H. T. Fisher, it is stated, has applied for a franchise for a plant.

SOUTH OMAHA, NEB.—Bids are asked until Feb. 21 for installing a system of conduits and electric wires at the post office. O. L. Spaulding, Asst. Secy. Treasury Dept., Washington.

BOULDER, COLO.—J. W. Deane, Denver, writes us that no information can be given at present in regard to the proposed plant. Further information can be secured later by addressing Mr. Deane, care of A. W. Mansur & Co., 64 Equitable Bldg., Boston. It is probable that Hollis French, 3 Hamilton Place, Boston, Mass., will be the engineer.

AUBURN, CAL.—Edward D. Brown, it is stated, is arranging for the installation of a new plant of 300 HP. for the Auburn Electric Light & Power Co.

REDWOOD CITY, CAL.—Wm. R. Gilbert has been engaged to prepare plans for a plant. D. R. Stafford, Clk.

SACRAMENTO, CAL.—The Yosemite Valley Commission has asked the legislature for an appropriation with which to build a plant, according to reports.

SAN FRANCISCO, CAL.—The board of supervisors has been asked by the Mutual Electric Light Co. for permission to erect poles and string wires outside of the fire limits. A majority of the board opposes the erection of poles but favors the laying of wires in conduits.

SOUTH PASADENA, CAL.—The Southern California Power Co. has been granted a franchise to operate a plant.

TEMPE, ARIZ.—Plans are being prepared by the Consolidated Canal Co. for its power plant. A line 16 miles long will be erected to Phoenix. Bowen & Ferry, Seedmen, Detroit, Mich., are interested.

LOGAN, UTAH.—Christian Garff writes us that bids are wanted at once for electrical apparatus to transmit 150 HP. 1½ miles. The water power plant was first operated last November.

HULL, QUE.—Bids for plant advertised in Engineering News Jan. 26 and Feb. 2, were received Feb. 6, but the opening of same was deferred by council to Feb. 18. No bids received after the advertised date will be considered, however. R. W. Farley, Cy. Engr.

HALIFAX, N. S.—Bids are asked until March 8 for furnishing the materials and for constructing a plant, as stated in our advertising columns. Alderman Mosher, Chn. Com.; F. W. Doane, Cy. Engr.

ORILLIA, ONT.—This place on Feb. 6 decided by a vote of 399 for to 61 against to issue $75,000 in bonds for a transmission power plant, the contract for which was let some time ago to the Central Construction Co., of Buffalo, N. Y., at $67,000. A plant of 800 HP. will be built at Ragged Rapids on the Severn River, about 18 miles from here.

PICTOU, ONT.—The corporation, it is stated, proposes to improve the plant at a cost of $10,000.

CASCADE CITY, B. C.—Press reports state that Wm. Anderson, Res. Engr. in charge of the improvement of the Cascade water power for the Dominion Mining, Development & Agency Co., has let a contract for the removal of rock at the dam site to S. F. Quinlivan, of this city, at $10,000. As soon as this contract is completed, another will be let for the construction of the 12×12 ft. flume to cost about $45,000, which will be 400 ft. long and driven through solid rock, to reach the site of the power house below the falls.

ROSSLAND, B. C.—The Rossland Air Supply Co. proposes to erect hydraulic air compressors at the junction of Beaver Creek and the Columbia River at Trail, or to erect an electric plant and operate the same by water power for the purpose of supplying compressed air or electricity and conveying it through conduit pipes to the Trail Creek mines. Capital stock, $200,000. Work must be commenced in six months.

MELBOURNE, AUSTRALIA.—The New York "Journal of Commerce" states as follows: J. G. White & Co., Contracting Engrs., 29 Broadway, New York, who recently received a contract for the installation of an electric railway at Perth, Australia, have just closed another contract to install a 1,200-HP. mining plant for the Deep Leads Transmission Co., near Melbourne. In the equipment there will be two 400-K-W. rotary field generators and three 250-HP. alternating current motors, each connected with a pump. The pumps are to be made in either England or Australia and the electrical machinery in the States. The generators are to be driven by two 600-HP. cross-compound Buckeye engines. As many Buckeyes are in use in the region where the mines are situated preference has been given to them, as the machine shop there can repair them quickly. The Wheeler Condenser & Engineering Co., 120 Liberty St., New York, is to furnish the condensers and the Geo. F. Blake Mfg. Co., New York, the air and circulating pumps. Some important railway and electrical works are projected in Australia in which American manufacturers are interested. As will be recalled, representatives from various parts of Australia were in New York in the autumn investigating American steam and electric railways in such departments of transportation as refrigerating and grain handling. We are informed that the greater part of the material has been shipped for the Perth tramways and for the Deep Leads Transmission mines.

NEW COMPANIES.—Tioga Heating & Illuminating Co., Tioga, Tioga county, Pa.; $5,000, with $500 paid in; Philo Fuller, T. A. Wickham, C. A. Nearing.

Van Nort Bros. Electric Co., St. Louis, Mo., $5,000; S. P. Van Nort, S. A. Van Nort, James B. Woods.

Highland Electric Co., Highland, Ill., $15,000; Willis M. Ricket, Norman P. Rickert, Godfrey H. Atkin. The company has purchased the plant of the General Electric Co.

Tacoma Ry. & Power Co., Tacoma, Wash.; $2,000,000; Gordon Abbott, Charles E. Cutting, C. H. Coster, Bird S. Coler, City Comptroller, New York, T. Jefferson Coolidge, Jr., Samuel Carr, S. Endicott Peabody.

Weymouth Water Power Co., Weymouth, Mass.; $300,000; J. R. Graham, Pres.; Clarence Burgin, Treas.

International Construction & Power Co., Boston, Mass.; $5,000,000; to construct, maintain and operate railways, street railways, electric light and power plants, etc., in any of the states and territories outside Massachusetts; James F. Shaw, P. W. Sprague, Edward P. Shaw, J. Albert Brackett, W. S. H. Lothrop, N. Sumner Myrick.

St. Regis Falls Electric Light Co., St. Regis Falls, N. Y.; $2,000; H. E. O'Neill, William T. O'Neill, William B. Babcock.

Trumbull Electric Co., Hartford, Conn.; $2,000; W. S. Ingram, H. Trumbull, J. H. Trumbull.

Babbitt Heat & Power Co., 6 Washington St., Morristown, N. J.; to supply heat and power; $25,000; Oscar H. Babbitt, Robert D. Foote, Richard B. Moriarty.

Economic Light & Power Co., No. 763 Broad St, Newark, N. J.; to manufacture electricity for light and power; $100,000; Horace M. Decker, Richmond C. Coventry, Frederick M. Payne.

Merchants' Heat & Power Co., Boston, Mass.; $10,000; with $5,000 paid in; H. I. Buckley, Milford, Mass.; A. Clark, Lowell, Mass.; G. F. Blakely, Worcester, Mass.

Franklin Electric Co., Franklin, Simpson county, Ky.; $15,000; Benjamin F. Gardner, W. H. Isbell, J. E. Potter.

Citizens' Heat, Light & Power Co., Waterloo, Ia.; $100,000; G. W. Dawson, J. D. Easton, G. E. Lichty, J. E. Sedgwick, C. W. Mullan, W. W. Miller, C. E. Pickett.

Washington Lighting Co., Washington, W. Va.; $40,000; W. A. Green, Dr. E. J. Caufield, F. S. Jones, H. L. Snyder.

Massena Electric Light & Power Co., Massena, N. Y; $10,000; Thomas A. Gillespie, Engr., Pittsburg, Pa.; R. A. Johnston, E. M. Stathers, New York; Henry W. Merwin, Brooklyn; Robert Swan, Massena..

Eldorado Springs Electric Co., Eldorado Springs, Mo.; $15,000, with $7,500 paid in; C. A. Ross, F. W. Hiatt.

North River Light, Heat & Power Co., 112 14th St., Hoboken, N. J; $500,000, all paid in; Arthur Seitz, W. C. Anderson, A. K. Bonta.

North Versailles Township Light & Power Co. North Braddock and Turtle Creek, Pa.; $15,000; to build a plant at Wilmerding in the spring; to supply Turtle Creek, Wilmerding, Pitcairn and East McKeesport with light and power; E. W. Boyd, Pres.; Homer L. Castle Vice-Pres.; Grant Williams, Treas; Anthony Lewis, Secy.

Home Electric Co., Easthampton, L. I., N. Y.; $15,000; W. Fletcher Muchmore, B. H. Van Scoy, Jonathan T. Gardiner, East Hampton; J. J. Bartlett, Greenport, L. I.

Norfolk-Hampton Roads Co., Norfolk, Va.; $750,000; to build an electric light plant, water-works, sewerage system, etc., 2,000 acres of land between Farmer's Creek and Hampton Roads; Andrew D. Jones, Pres.; D. Lowenberg, Vice-Pres. and Gen. Mgr.; Caldwell Hardy, Treas.

Columbia Electric Car Lighting & Brake Co., the Corporation Trust Co.'s Bldg., Jersey City, N. J.; to manufacture, etc., gas and electricity and machinery used therefor; $2,000; Edgar W. Youmans, Robert B. Upham.

Cook County Light & Heat Co., Chicago; $50,000; John Cameron, Warren A. Drake, Charles C. Holter.

Middlesex Electric Co., Metuchen, N. J.; $100,000; to light the town with electricity; Manning Freeman, John M. N. Connors, Herbert C. Richardson, Metuchen, N. J.; Wm. Muchmore, Fred C. Agens, Jr., Newark, N. J.

Subterranean Water Co., Perris, Riverside county, Cal.; operating, acquiring, etc., electrical, steam or gas engines, to erect poles for the wires for the transmission of electricity for power or lighting purposes, etc.; $25,000, with all paid in; S. V. Gates, H. E. Perley, W. B. Payton.

BRIDGES.

BOSTON, MASS.—The council has authorized the city engineer to submit estimates for a foot bridge and for a subway over Travers St., between Canal and Haverhill Sts.

QUINCY, MASS.—A petition has been presented to the council for a bridge over the railway at Warren Ave.

ALBANY, N. Y.—Bids are asked until Feb. 23 for reconstructing culverts Nos. 39 and 45 on the eastern division of the Erie Canal. John M. Partridge, Supt. Pub. Wks.

BINGHAMTON, N. Y.—An election will be held March 2 to vote on the question of raising $40,000 for the proposed bridge at Tompkins St. B. W. Mosher, Cy. Clk.

HORNELLSVILLE, N. Y.—Fay P. Rathbun, Mayor, informs us that the question of raising money for constructing a highway bridge will be submitted to a vote of the people.

PERSIA, N. Y.—The towns of Persia and Otto will construct an iron bridge over the Cattaraugus River; to cost about $1,650.

SECAUCUS, N. J.—The Bergen and Hudson county boards of freeholders have instructed engineers to examine the Paterson Plank Road bridge, crossing the Hackensack River near Secaucus, for the purpose of ascertaining the probable cost of repairing it.

WEST SCRANTON, PA.—Joseph Oliver, Secy., 1317 Hampton St., informs us that a proposition to raise funds for a viaduct and other improvements has failed to pass the council.

HUNTSVILLE, TENN.—The Youngstown Bridge Co., Youngstown, O., has been awarded a contract, at $1,200, for a bridge over Brimstone Creek.

BIRMINGHAM, O.—John R. Gallagher, County Audr., Sandusky, O., writes us that C. A. Judson, Sandusky, is preparing plans for a bridge over the Vermillion River.

CLEVELAND, O.—Bids are asked by the Cleveland, Cincinnati, Chicago & St. Louis Ry. Co. until March 10 for constructing a bridge over the Cuyahoga River, according to reports. G. W. Kittredge, Ch. Engr., Cincinnati.

CLEVELAND, O.—New bids will be asked by the board of public works for the Center St. bridge superstructure.

CHICAGO, ILL.—Bids are asked by the board of sanitary district trustees until April 10 for furnishing the material and constructing the sub and superstructure of a two-track railway bridge over the Chicago River, near Taylor St.; also for a street bridge at Taylor St. Joseph F. Haas, Clk.

MOLINE, ILL.—The Moline Plow Co. has presented a petition to the council for permission to construct a tunnel and bridge at Third Ave. between its present building and those it proposes to erect on the south side of the avenue.

VILLAGROVE, ILL.—Bids are asked by the county commissioners, court house, Tuscola, until March 4 for constructing a 120-ft. highway bridge on masonry.

DES MOINES, IA.—The council has passed ordinances to construct a bridge at North Sixth St. and at Southeast Sixth St.

MUSCATINE, IA.—A span of the bridge over the Mississippi River fell Feb. 4, according to reports.

OMAHA, NEB.—It is reported that about $200,000 will be expended this year by the Burlington & Missouri River R. R. Co. for constructing iron bridges along its lines in Nebraska, Colorado, Wyoming, South Dakota and Montana. I. S. P. Weeks, Ch. Engr., Lincoln, Neb.; G. W. Holdrege, Gen. Mgr., Omaha.

ST. JOSEPH, MO.—Bids are asked until Feb. 17 for certain bridge work, according to reports. Theo. Steinacker, County Surveyor.

DAVISVILLE, CAL.—W. O. Russell, County Supervisor, Davisville, informs us that it is proposed to construct a steel bridge of two spans, 100×20 ft. each; capacity, 1,600 lbs. per sq. ft., on concrete cylinder piers; estimated cost, $8,000.

OGDEN, UTAH.—The county commissioners have awarded a contract to the Andrews Bridge Co., at $3,795, for a bridge over the Weber River, according to reports. The lowest bid for constructing the bridge was received from the Gillette-Herzog Mfg. Co., Minneapolis, Minn., at $3,488.

TORONTO, ONT.—Bids will soon be asked by the board of public works for the proposed bridge over the River Don, according to reports.

BUCHAREST, ROUMANIA.—Bids are asked, according to reports, by the ministry of public works for a metallic bridge over the River Cainistea, on the road from Bucharest to Giurgevo.

BUILDINGS.

BOSTON, MASS.—The old public library building on Boylston St. has been bought by the Frederick L. Ames estate for $850,000, and will be replaced by a theatre and office building, 106 × 215 ft. Work is to begin soon. Clarence H. Blackall, Arch.——C. E. Cotting and F. C. Welch have applied for a permit to erect an 8-story brick dwelling, warehouse and office building, 153 × 131 ft., at Essex, South and Tufts Sts. George A. Fuller & Co. contractors.——Plans are being prepared for an 8-story fireproof business building to be erected at 81 and 83 Essex St. Stephen Codman, Arch., 6 Beacon St.

EAST CAMBRIDGE, MASS.—Bids are asked by the commissioners of Middlesex county until Feb. 25 for the plumbing, the elevator and lift, and for the heating and ventilating plant for the hospital at this place. Levi S. Gould, Chn.

LAWRENCE, MASS.—Bids are asked until Feb. 17 for erecting a new high school building in this city. Jas. H. Eaton, Mayor; John Ashton, Arch., 6 Beacon St.

ALBANY, N. Y.—A fire in this city Feb. 12 destroyed the store of the Grand Union Tea Co., at Hudson Ave. and South Pearl St., and adjacent buildings, causing a reported loss of about $200,000.

FORT HAMILTON, N. Y.—Bids are asked until March 14 for putting in additional plumbing at this post, as stated in our advertising columns. First Lieut. E. F. McGlachlin, Fifth Artillery Q. M.

GLEN FALLS, N. Y.—Plans have been prepared for a new 4-story opera house, 75 ×135 ft., to be erected here at a cost of about $50,000. J. B. McElfatrick & Sons, 1402 Broadway, New York.

NEW YORK, N. Y.—Bids are asked by the board of education, at 585 Broadway, until Feb. 21, for alterations, repairs, etc., at Public School 20, Borough of Richmond; also until Feb. 27 for erecting a new building, as Public School 119, on 133d and 134th Sts., between 7th and 8th Aves.——A fire in this city, Feb. 9, damaged the block of buildings at South, Front, Whitehall and Moore Sts., occupied by the Eastern Hotel and others; reported loss, $500,000.——Plans have been filed by John H. Picken, 548 West 165th St., for four 5-story brick flat buildings on 131st St., near Park Ave., to cost $96,000. John Hauser, Arch., 1441 3d Ave.; by Henry Rothschild, 109 East 81st St., for four 6-story brick flat buildings on 119th St., near 5th Ave., to cost $92,000. Geo. F. Pelham, Arch., 503 5th Ave.; by Stephen J. Egan, for four 5-story brick flat buildings at St. Ann's Ave. and 141st St., to cost $83,000. Harry T. Howell, Arch., 748 East 138th St.; by Jas. H. Havens, 791 West End Ave., for a 7-story brick flat building on West End Ave., near 100th St., to cost $75,000. Neville & Bagge, Archs., 217 West 125th St.; by G. P. Brouwer-Ancher, 797 St. Nicholas Ave., for five 3-story brick dwellings on 149th St., near Amsterdam Ave., to cost $55,000. G. J. Ebert, Arch.; by Brogan & Meyer, 1165 Washington Ave., for a 6-story brick flat building on 115th St., near 7th Ave., to cost $75,000. Neville & Bagge, Archs.; by James Everard, 697 5th Ave., for an 8-story brick flat building at 44 West 120th St., to cost $48,000. Jas. W. Cole, Arch., 403 West 51st St.——The following bids were received by the department of public charities, foot of East 26th St., Feb. 6, for alterations and repairs, steam-heating, etc., for the insane pavilion at Bellevue Hospital: Slevin & Sheeran, 37 Oliver St., $31,537; Murphy Bros., 407 East 101st St., $31,768.——The board of education, Feb. 6, received the following bids for heating and ventilating the extension of the Erasmus Hign School building, Borough of Brooklyn:

Frank Dobson, 218 East 42d St., New York	$9,180
E. Rutzler, 178 Center St., New York	9,399
John W. Petry, 63 Vernon Ave., Long Island City	10,500
G. A. Suter & Co., 108 Wooster St., New York	8,825
*Blake & Williams, 362 West Broadway, New York	8,365

*Accepted.

NEW YORK, N. Y.—Bids are asked until March 10 for the ornamental iron-work of the main buildings of the U. S. Immigrant Station, Ellis Island, New York Harbor, as stated in our advertising columns. Copies of specifications, etc., are on file with Boring & Tilton, Archs., 32 Broadway, New York. James Knox Taylor, Supervising Arch., Washington, D. C.

NEW YORK, N. Y.—Plans have been filed by Leo Wise, 101 West 118th St., for a 7-story brick flat building at 74th St. and Park Ave., to cost $150,000. Louis Korn, Arch.; by Wieland & Roth, 538 East 82d St., for two 6-story brick flat and store buildings at Ave. D and 3d St., to cost $55,000. Horenburger & Straub, Archs., 122 Bowery.

SARATOGA, N. Y.—The Delaware & Hudson Canal Co.'s station, Sweeney's Hotel and other buildings were burned, Feb. 9, causing a reported loss of $50,000.

SCHENECTADY, N. Y.—The Schenectady Locomotive Works will build a 2-story addition, 70 × 40 ft., to its present office building.

BLACKWOOD, N. J.—The Camden county board of freeholders will petition the state legislature for permission to issue $40,000 in bonds for an addition to the Blackwood Insane Asylum.

CAMDEN, N. J.—Bids are asked until March 7 for installing the heating and ventilating apparatus, complete, for the U. S. post office building, custom house, etc., as stated in our advertising columns. James Knox Taylor, Supervising Arch., Washington, D. C.

JERSEY CITY, N. J.—A fire in this city, Feb. 13, damaged Public School No. 20 on Danforth Ave., near Ocean Ave., and adjacent dwellings, causing a reported loss of $100,000.

VINELAND, N. J.—Thomas Stephens, Masonic Temple, Camden, N. J., is reported to have completed plans and specifications for alterations to the Soldiers' Home at Vineland, including new heating apparatus, light plant, refrigerating plant, etc.; estimated to cost $20,000.

JOHNSTOWN, PA.—Wild & Reiche, of Johnstown, are said to be preparing plans for a new 5-story brick apartment building to be erected in this city.

PHILADELPHIA, PA.—Mr. H. Lambert, president of the insane asylum at Blockley, has petitioned the council for an appropriation of $60,000 with which to enlarge the almshouse buildings and to erect a new boiler house.——Chas. B. Prettyman, South Broad St., has purchased the property at 10th and Clinton Sts., and will erect thereon a 10-story brick, stone and steel apartment house, 100 × 115 ft., to cost $350,000. Coates, Dull & Peterson, Archs., 1110 Walnut St.

PITTSBURG, PA.—The contract for remodeling the Blakewell Law School building has been awarded to Wm. Miller & Sons, Carnegie Bldg., at about $50,000.

SCRANTON, PA.—A fire on the west side of this city, Feb. 11, destroyed buildings occupied by Edward Farr and others; reported loss, $75,000.

BALTIMORE, MD.—It is reported that Horace Slingluff, representing New York capitalists, has purchased a site at Mount Royal Ave. and St. Paul St., upon which will be erected a large apartment house.

BALTIMORE, MD.—The 6-story building occupied by J. H. Medary & Co., at 5 North Howard St., was destroyed by fire, Feb. 11; estimated loss, $50,000.

BALTIMORE, MD.—Bids are asked until March 15 for furnishing the material and erecting the Hooper Island lighthouse, as stated in our advertising columns. Lieut.-Col. W. A. Jones, U. S. Lighthouse Engr., Baltimore.

WILMINGTON, N. C.—Bids are asked until Feb. 27 for the erection of a Masonic temple building for the Masonic Temple Co., to cost about $30,000. Jas. C. Munds, Secy.; Charles McMillen, Arch.

SANDERSVILLE, GA.—J. H. McKenzie & Co., Augusta, Ga., have been awarded the contract for making alterations to the Washington county court house, to cost about $20,000. L. F. Goodrich, Arch.

CANTON, O.—We are informed that the following total bids were received, Feb. 4, for the construction of a new engine house in Canton: G. H. Whike, $5,449; Samuel Brumbaugh, excluding heating and plumbing, $4,060; J. M. McQuern, $5,438; the Wrought Iron Bridge Co., excluding heating and plumbing, $4,300.

CLEVELAND, O.—The Kelly Block, on Superior St., was damaged by fire, Feb. 10, causing a reported loss of $125,000.

TOLEDO, O.—The school board has authorized Hudson & Wachter to prepare plans for a new 12-room school building, 100 × 100 ft., to be erected on Waite Ave.——Reports state that J. L. Wolcott has had plans prepared for a new 7-story fire-proof apartment building to be erected on Michigan and Madison Sts., to cost about $150,000.

VAN WERT, O.—A fire here, Feb. 11, destroyed the 4-story building of Humphrey & Hughes, wholesale grocers. Reported loss, $175,000; insurance, $50,000.

MARION, IND.—It is reported that the erection of a new Presbyterian church building in this city, to cost about $30,000, is contemplated. M. B. McFeely, Secy.

CHICAGO, ILL.—Bids are asked by the board of education, 1110 Schiller Bldg., until Feb. 17, for the masonry, structural iron work, etc., for the Darwin school building at Edgewood Ave. and Catalpa Court; for heating, ventilating and plumbing at the Cooper school kindergarten, etc. W. B. Mundie, Arch. of Bd.——It is reported that the Chicago Telephone Co. will erect a $50,000 addition to its present building at Washington and Franklin Sts. D. H. Burnham & Co., Archs., The Rookery.——Plans have been completed by Egan & Prindeville for a new building to be erected at 49th and 50th Sts. and Evans and Langley Aves., as the St. Xavier's Academy and Convent of Mercy; estimated cost, $250,000.——Plans have been prepared for Christian A. Londelius and Peter C. Brahn for a row of 3-story apartment buildings to be erected at Calumet Ave. and 58th St., to cost $100,000. J. F. & J. P. Doerr, Archs., 1203 Chamber of Commerce.——Reports state that Marshall Field will erect a new office building at South Clark and Adams Sts., to cost about $750,000.

CHICAGO, ILL.—The 5-story brick building at Wabash Ave. and Madison St., occupied by A. C. McClurg & Co., was destroyed by fire, Feb. 12, causing a loss of $150,000 on the building and of about $400,000 on the stock.——The 6-story building at 10 to 24 Water St., occupied by the Traders' Warehouse Co. and others, was destroyed by fire, Feb. 14, causing a reported loss of $700,000.

EAST ST. LOUIS, ILL.—The East St. Louis Relay Depot Association is said to favor the erection of a new station by the Terminal Ry. Co. in East St. Louis, to cost about $40,000.

SPRINGFIELD, ILL.—The plans of S. J. Hanes have been adopted for the remodeling of the court house at a cost of about $50,000.

JANESVILLE, WIS.—The Pauley Jail Building & Mfg. Co., St. Louis, Mo., is reported to have been awarded the contract for erecting the county jail building, at $20,950. Other bidders were: The Portsmouth Steel & Iron Works, Portsmouth, O.; R. G. Kirsch & Co., Milwaukee, Wis.; Champion Iron Works, Canton, O.; Philip Dean, Appleton, Wis.; J. G. Wagner & Co., Milwaukee.

MADISON, WIS.—The Chicago, Milwaukee & St. Paul Ry. Co. has decided to erect a brick and stone freight station in this city, to cost about $50,000.

MILWAUKEE, WIS.—The following bids have been received at Milwaukee for furnishing the metal work for the Tail Point light station: John P. McGuire, Cleveland, O. (accepted), $1,850; The Fulton Iron & Engine Works, Detroit, Mich., $1,933; Chamblin & Scott, Richmond, Va., $2,538; The William Bayley & Sons Co., Milwaukee, Wis., $2,912.

OSHKOSH, WIS.—Chas. W. Gindele, 140 Monroe St., Chicago, Ill., has been awarded the contract for erecting the new public library building, at $35,700.

DES MOINES, IA.—Henry F. Liebbe has been chosen as architect for the proposed new home for the aged, to cost about $30,000.——The library trustees have decided to increase the cost of the new building from $125,000 to $150,000. Work is to begin about April 1. Smith & Gutterson, Archs., Des Moines.——Plans have been filed by Conrad Youngerman for a 7-story office building, 63 × 132 ft., to be erected at 5th and Locust Sts., at a cost of $80,000. Proudfoot & Bird, Archs.——The Younker Bros. Construction Co., it is reported, will erect a new business block at 7th and Walnut Sts., to cost about $125,000.

GRINNELL, IA.—Bids are asked until Feb. 25 for the mason work, carpenter work, heating, etc., for a new building for the Iowa College. H. H. Robbins, Secy.

LAKEFIELD, MINN.—Plans are said to be under way for a new 2-story brick, terra cotta and stone bank building, 22 × 67 ft., with fire-proof vault, to be built at this place. Omeyer & Thori, Archs., Chamber of Commerce, St. Paul, Minn.

MARSHALL, MINN.—Plans have been accepted for the new 2-story school building, 80 × 160 ft., to be erected at Marshall at a cost of about $35,000. W. B. Dunnell, Arch., 616 Bank of Commerce Bldg., Minneapolis, Minn.

OWATONNA, MINN.—The contract for erecting the public library building in this city has been let to Hammel Bros., Owatonna, at $18,157.

WHEATON, MINN.—Bids are asked until March 11 for the construction of a public school building. J. K. Mork, Clk. of Bd. of Education; Buechner & Jacobson, Archs., Manhattan Bldg., St. Paul, Minn.

PONCA, NEB.—Bids are asked by the board of education until Feb. 28 for the erection of a school building in this city; also until Feb. 27 for heating and plumbing of the same. Sam. Bittenbender, Clk.; W. R. Parsons & Co., Archs., Des Moines, Ia.

WELLINGTON, KAN.—The county commissioners have adopted plans for the new 2-story jail building, 30 × 30 ft., to cost about $13,000.

SAN ANTONIO, TEX.—We are informed that the following bids were received Feb. 9 for the erection of a 5-story fireproof building for the San Antonio Loan & Trust Co.; contract to be let as soon as directors have decided whether front shall be of terra cotta or of granite and sandstone; Alfred Giles, Arch., 114 West Houston St.:

	Total.	Construction.
March Bros. Const'n Co.[1]	$57,762	Skeleton.
Anderson Construction Co.[1]	60,000	Skeleton.
M. T. Lewman & Co.[2]	58,000	Granite and stone.
	55,000	Terra cotta.
Henry Pauly	61,500	Granite and stone.
	63,940	Ter. cot. & skeltn.
P. T. Shields (16 bids)	56,650	to $62,500
Skirving & Boyd	69,987	
L. P. Boettler	50,300	" 58,300.
Thomas Lonergan & Co.[3]	47,550	" 54,500.
J. H. Erb	59,690	" 63,000.

All bidders are of San Antonio except: [1]St. Louis, Mo.; [2]Louisville, Ky.; [3]Chicago, Ill.

TORONTO, ONT.—A fire in this city, Feb. 10, destroyed the building at 10 to 16 Front St. East, occupied by Gowans, Kent & Co., wholesale crockery, causing a loss of about $150,000.—E. J. Lennox, Arch., 71 Yonge St., is said to have estimated that $50,000 more will be needed to finish the new city hall building, including electric plant, partitions, etc.

WINNIPEG, MAN.—The Manitoba Hotel and the Northern Pacific offices were destroyed by fire, Feb. 7; reported loss, $300,000.

LEEDS, ENGLAND.—Plans are asked until June 1 for a new market hall and market shops on a site of 4,560 sq. yds. Premiums of £150 ($750), £100 and £50 are offered. For particulars address the city engineer.

GLASGOW, SCOTLAND.—Bids are asked until March 15 for the construction of exhibition buildings in Kelvington Park. H. A. Hedley, Secy., 141 Buchanan St.

WATER-WORKS.

FRANKLIN, N. H.—The legislature has been asked to grant a charter to a company which proposes to build new works for this place. Fred Flanders may be addressed.

ROCHESTER, N. H.—The committee is considering the subject of improving the quality of the water supply.

MALDEN, MASS.—Bids are asked until 9 a. m. Feb. 18 for furnishing 334 lengths of 6-in. cast iron water pipe, 125 lengths of 8-in. and 575 lengths of 12-in. pipe, to weigh 430 lbs., 623 lbs. and 1,070 lbs. a length respectively. The ton to be 2,240 lbs. Geo. W. Barrett, Water Registrar.

WATERTOWN, MASS.—Bids are asked until Feb. 18 for the purchase of $270,000 of 3½% coupon bonds, to be used for the purchase of the works. S. S. Gleason, Treas.

WEST SPRINGFIELD, MASS.—N. T. Smith, Chn. Comrs., writes us that an expert investigation of the source of water supply has been made and the report is about ready to be submitted to the town. It is not known what steps will be taken towards improving and increasing the water supply.

PAWTUCKET, R. I.—The Warren Foundry & Machine Co., 160 Broadway, New York, has been awarded the contract for furnishing 500 pieces of 6-in. and 50 pieces of 4-in. pipe. J. H. Cunningham, Boston, is said to have been awarded the contract for furnishing 10,000 ft. of 1-in. wrought iron tarred water pipe and 300 ft. of 2-in.

NEW HAVEN, CONN.—The New Haven Water Co. proposes to build a tunnel to connect Lake Saltonstall and Farm River. The tunnel will be 1,700 ft. long and will cost about $40,000. A. L. Chamberlain, Jas. English and Jno. H. Leeds may be addressed. Eli Whitney, Pres., writes us that the company is not comtemplating any extensive new work this year, except some pipe laying and renewing old mains, etc., and a new water wheel and a 5,000,000-gallon pump at the Whitneyville station.

GLENS FALLS, N. Y.—Geo. P. Slade, Cy. Engr., writes us that the board of trustees wants to purchase about 150 ½ to 6-in. water meters. W. H. Haskell, Pres.

GREENPORT (L. I.), N. Y.—This place will vote March 21 on the question of issuing $36,000 in bonds for the purchase of the works of the Greenport City Water Co. and the plant of the Greenport Electric Light & Power Co.

HORNELLSVILLE, N. Y.—Fay P. Rathbun, Mayor. writes us that an effort is being made to get legislation for the purchase of the works of the Hornellsville Water Co. or for the construction of new works. F. A. Dalrymaple, Cy. Engr.

TUPPER LAKE, N. Y.—The Tupper Lake Water & Sewer Co. has been organized to build works and a sewerage system. We are informed that the pipe laying will begin as soon as the season opens. The work will probably be let by contract. Capital stock, $10,000. J. L. Jacobs, Pres.; W. E. La Fountain, Engr.

WINDSOR, N. Y.—Bids are asked until Feb. 27 for furnishing about 300 tons of water pipe and 5 tons of special castings for the proposed works, as stated in our advertising columns. Bids for the remainder of the work will be asked for later. J. F. Witmer, Engr., 705 Ellicott Sq., Buffalo. M. A. Tompkins, Clk.

JAMESBURG, N. J.—Bids are asked until March 6 for furnishing the materials and for constructing works, including a standpipe. Frank Jennings, Mayor.

NORTH PLAINFIELD, N. J.—The question of this borough owning its works is being considered. At present the supply is secured from the Plainfield Water Supply Co. Mayor Wilson may give information. P. O. Plainfield.

DOYLESTOWN, PA.—Wm. J. Wintgen, Supt. and Engr. water works, writes us that nothing definite will be done in regard to securing an increased supply from wells until the new board is organized on April 1. Population, 3,000.

LOCUST GAP, PA.—It is stated that a company may be organized to build works.

MIDDLETOWN, PA.—The Middletown Water Co. has decided to put in a new filter plant of about 6,000 gallons capacity. It is also proposed to make a few other improvements in the works. Geo. Bellmeyer, Pres.

NORRISTOWN, PA.—Press reports state that the finance committee of the council on Feb. 6 made an agreement with the Norristown Water Co. not to establish borough works for 99 years, with the understanding that the borough shall have free water for all municipal purposes, and that the rates to consumers shall be adjusted to at least a 20% reduction.

WAYNESBURG, PA.—At a recent town meeting it was decided to instruct the council to accept the proposition of the Waynesburg Water Co. for the purchase of the works for about $45,000. Local papers state that it will cost about $8,000 to repair the works. Dr. J. T. Iams and W. W. Evans may be addressed.

BRISTOL, VA.—The artesian well for the new water supply has been tested and found satisfactory, about 250,000 gallons a day being secured. A reservoir and pumping station will be built at a cost of $10,000. J. D. Mitchell, Chn. Com.

NORFOLK, VA.—The Norfolk-Hampton Roads Co. is reported to have been organized with a capital stock of $750,000 by A. D. Jones, D. Lowenberg and Caldwell Hardy. The company proposes to build works, a sewerage system, etc., to cost $350,000 on land owned by it between Tanners Creek and Hampton Roads.

TARBORO, N. C.—The legislature has been asked to grant this place authority to issue $50,000 in bonds for new works, an electric plant and a sewerage system.

CHARLESTON, S. C.—J. L. Ludlow, Winston, N. C., is preparing plans for municipal works and a sewerage system. The water supply will be secured from the Edisto River, about 30 miles distant, where it is hoped to secure 7,000,000 gallons a day.

JACKSONVILLE, FLA.—The bond trustees have awarded contracts for furnishing 200 water meters to the following, each receiving an order for 50 meters: Hersey Mfg. Co., South Boston, Mass.; Thomson Meter Co., 79 Washington St., Brooklyn, N. Y.; National Meter Co., 118 Chambers St., New York; Neptune Meter Co., 253 Broadway, New York. The other bidders were the Union Water Co., Worcester, Mass., and the Standard Water Meter Co., New York. The prices ranged from $7 to $13 each.

ST. PETERSBURG, FLA.—J. A. Armistead, Mayor, writes us that an election will be held March 7 to vote on the question of issuing bonds for works.

WETUMPKA, ALA.—The legislature has been asked to grant this place authority to issue $10,000 in bonds for works, a sewerage system, etc.

FAYETTEVILLE, TENN.—Bids are asked until March 15 for furnishing the materials and for constructing gravity works, laying 12 miles of pipe, etc., as described in our advertising columns. Alternate proposals will be received for an equivalent amount of wrought iron or steel pipe. Walter G. Kirkpatrick, Engr., Jackson, Miss.; B. A. Lewis, Mayor.

ELKTON, KY.—The question of building works is being considered, according to reports.

ALEXANDRIA, IND.—G. A. Gessner, Jr., Cy. Engr., writes us that the council has voted to purchase an air compressor capable of raising 400 gallons of water a minute for use at the works. W. T. Baker, Chn. Com.

BLOOMINGTON, IND.—Bids are asked until Feb. 20 for furnishing 300 tons of 12-in., 72 tons of 6-in. and 10 tons of 16-in. pipe and special castings, as stated in our advertising columns. Frank Schefold, Engr., New Albany, Ind.; J. D. Showers, Clk.

MARION, IND.—E. Hully, Supt. Water Wks., writes us that it is proposed to put in a new 5,000,000-gallon pump. No time has yet been set for receiving bids. Each bidder is to submit his own plans after an inspection of the ground has been made. The money for the pump is in the bank. Population, 20,000.

HARTFORD, MICH.—We are informed that the time for letting the contracts for the proposed works has been postponed from this month to about the end of March, owing to a delay in securing the desired location for the pumping station. The works will have a standpipe or an elevated tank, pump of 500,000 gallons a day, 2½ miles of cast iron pipe, etc., as noted in our issue of Jan. 19. L. C. Colburn, Engr., Paw Paw, Mich.

LUDINGTON, MICH.—Jos. Lohner, Cy. Clk., writes us that no action will be taken in regard to new works until after the decision of the Supreme Court in regard to the contract with the Ludington Water Co.

WHITEHALL, ILL.—Bids are asked until Feb. 28 for furnishing the machinery for the proposed works, to cost $8,500. T. A. Chapin, Engr.

ELLSWORTH, WIS.—The question of building works is reported as being considered.

KESHENA, WIS.—Bids are asked until March 3 for furnishing the materials and for constructing the works and sewerage system at the Menomonee Indian schools. D. H. George, Indian Agent, Keshena; W. A. Jones, Indian Comr., Washington, D. C.

OCONOMOWOC, WIS.—The question of issuing $30,000 in 4% bonds for works is being considered. A committee consisting of Aldermen Moldenhaur, Kellogg and Roberts and Mayor Weissner is investigating the question.

ALLISON, IA.—Bids are asked until March 7 for constructing works. W. F. Ray, Mayor, writes us that the committee consists of D. B. Downey, G. W. Wild and M. Wires. Population, 500.

ATLANTIC, IA.—This place voted Feb. 2 in favor of municipal works. Population (1890), 4,351. There is at present a plant leased to the city by the Atlantic Water Co.

BRISTOW, IA.—We are informed that a committee is investigating the cost of works, the supply to be secured from deep wells. Population, 500. F. A. Jones may be addressed.

CORYDON, IA.—The question of building works is being considered, according to reports.

BEMIDJI, MINN.—Bids are asked until Feb. 23 for constructing the proposed works, to cost about $7,000, according to reports. C. F. Schroeder, Recdr.

BLOOMING PRAIRIE, MINN.—The question of building works is stated as again being considered; estimated cost, $5,000. M. M. Guthrie may be addressed.

NEW RICHLAND, MINN.—The question of building works, it is stated, is under consideration.

ST. LOUIS, MO.—The following are the lowest bids received by the board of public improvements Feb. 7 for furnishing certain supplies for the water department: Water pipe, 4,100 tons, American Pipe & Foundry Co., Chattanooga, Tenn., $77,080; special castings, 200 tons, Magnatile Foundry Co., St. Louis, $31 a ton; fire plugs, 425, Pleuger & Henger Mfg. Co., St. Louis, $9,120; stop valves, 179, Fulton Iron Works, St. Louis, $5,388; pipe laying, Patrick O'Donnell, and the Mound City Construction Co., $12,550 and $14,186.

DARDANELLE, ARK.—The question of purchasing the works at this place, owned by Capt. J. Evins, for $12,500 is being considered.

CORSICANA, TEX.—We are informed that J. S. Thatcher, Dallas, Tex., has completed plans and specifications for a new reservoir for the works of the Corsicana Water Co. The dam will be 1,980 ft. long, 29 ft. high and will require 95,000 cu. yds. of earthwork. The basin will cover an area of 260 acres, average depth 12 ft., capacity 1,000,000,000 gallons. B. B. Cain, attorney for Receivers, Tyler, Tex., may be addressed.

HONDO, TEX.—The Hondo Deep Well Co. has been incorporated with a capital stock of $10,000 by Hy. Rothe, E. S. Adair and Emil Greel.

WACO, TEX.—Andrew Goddard, Engr., writes us that it is proposed to connect the Bosque River with the city, a distance of four miles, for a better water supply. The Bell Water Co. furnishes the city with water from artesian wells.

CHELAN, WASH.—M. M. Kingman is reported as preparing to build the proposed works.

KETTLE FALLS, WASH.—J. J. Fuller, Cy. Clk., writes us that this place voted Feb. 7 to issue bonds for works. The next step is the selling of the bonds.

ELGIN, ORE.—H. V. Gates, Hillsboro, Ore., writes us that bids are wanted at once for building gravity works. Population, 700.

PENDLETON, ORE.—The question of putting in a new pump at the works is being considered. Estimates for new works to cost $60,000 have been made. Mayor Vincent may be addressed.

LAKEPORT, CAL.—G. W. Dodge, San Rafael, Cal., is reported as making surveys for the proposed works, to cost $15,400. H. F. Heeling, Town Clk.

ROSWELL, N. MEX.—E. L. Wildy, Chn. Town Bd. of Trustees, writes us that this place is desirous of securing information at once on the construction of works and a sewerage system. The proposition is to bond the city to raise the money. The city finances, as well as those of the county, are in good condition. It was proposed in 1896 to build works at a cost of $20,000.

MANTI, UTAH.—The question of securing a better water supply is being considered, according to reports. Christensen Bros., Gunnison, Utah, may be addressed.

MONTREAL, QUE.—The committee will ask for an appropriation of $6,900 for a boiler for the upper pumping station.

BELLEVILLE, ONT.—The question of purchasing the works of the Belleville Water Works Co. is being considered.

STRATFORD, ONT.—The question of buying the works of the Stratford Water Supply Co. for $95,000 is reported as being considered.

IRRIGATION.

NEW ORLEANS, LA.—The P. H. & F. M. Roots Co., Connersville, Ind., is said to have been awarded the contract for constructing an irrigation pumping plant in this city, to cost about $100,000.

POMONA, CAL.—A meeting of the stockholders of the Del Monte Irrigation Co. will be held at 225 South Thomas St., Pomona, March 31, at which will be submitted the question of issuing $65,000 in bonds for the purpose of enlarging and improving the canal, etc. W. A. Lewis, Secy.

REDLANDS, CAL.—It is reported that the Crafton Water Co. has voted to spend $9,000 in investigating the possibilities of water development in Mill Creek Canon, and for that purpose has employed an engineer.

NEW COMPANIES.—Riverside Highland Water Co., Highgrove, Cal.; $200,000, with $4,400 paid in; E. A. Chase, H. B. Chase, Charles R. Gray and K. Sanborn, of Riverside; C. L. Merryfield, M. A. Murphy and W. H. de Berry, of Colton; J. F. Heartwell, E. G. Carr and George L. Bush, of Highgrove.

Mound City Valley Land & Irrigation Co., San Bernardino, Cal.; $10,000; Chas. Morris, W. D. Ennor, L. S. Davis and R. Robertson.

SEWERAGE.

WAKEFIELD, MASS.—The North American Sewerage Co. has submitted a proposition for putting in a system.

WATERBURY, CONN.—Judge Shumway of the Superior Court, has decided that this city must pay Platt Bros & Co. $500 for polluting the Naugatuck River. The city has been enjoined from emptying sewage into the river. It will take the case to the Supreme Court. Should the injunction stand new sewers will have to be built.

COHOES, N. Y.—Plans for sewers for section No. 2 have been completed. It is proposed to construct a sewer in Columbia St. at a cost of $5,000. Edward Hayes, Cy. Engr.

TUPPER LAKE, N. Y.—The Tupper Lake Water & Sewer Co. has been organized to build a system and water-works, work of laying the pipes for which will begin as soon as the weather will permit. The work will probably be let by contract. Capital stock, $10,000. J. L. Jacobs, Pres.; W. E. La Fountain, Engr.

NEWARK, N. J.—Ernest Adam, Cy. Surv., has submitted a report for a brick sewer in Morris Ave. to cost about $22,200.

STEELTON, PA.—The following bids were received by J. D. Young, Borough Secy., Feb. 9, for furnishing pipe for the proposed system, as advertised in Engineering News: Keller & Mumma, Steelton, $10,007; Arthur M. Pierson & Co.,1 Park Row, New York (accepted), $9,520; Chas. Warner & Co., Wilmington, Del., $10,729; Geo. B. Stucker, Harrisburg, $10,647; John Franey, Sons & Co., Toronto, O., $10,887; J. E. Rhoads, Harrisburg, $10,293; F. H. Cowden & Sons, Harrisburg, $10,201. The McNeal Pipe & Foundry Co., Burlington, N. J., was awarded the contract for the iron pipe. Bids for laying 13 miles of pipe sewers are asked until Feb. 28, as stated in our advertising columns. Alex. Potter, Engr., 137 Broadway, New York.

NORFOLK, VA.—Bids are asked until March 9 for constructing sewers in Brambleton Ward, as stated in our advertising columns; bond, $20,000. C. J. Jones, Pres. Local Bd. of Improvement of Brambleton Ward.

TARBORO, N. C.—The legislature has been asked to grant this place authority to issue $50,000 in bonds for a system, water-works, etc.

CHARLESTON, S. C.—J. L. Ludlow, Winston, N. C., is reported as preparing plans for a system and water-works.

CAMBRIDGE, O.—O. M. Hoge, Cy. Engr., writes us that the council has passed resolutions directing him to prepare plans for the extension of outfall sewer from 4th St. to 9th St.; also lateral sewers on all streets from 1st to 12th. The approximate amount is 25,000 ft. of 18 to 8-in. pipe sewers and 10,000 ft. of 6-in. house connections.

CLEVELAND, O.—Bids are asked until Feb. 24 for constructing sewers in eight streets and until March 10 for constructing sewers in four streets. G. R. Warden.

CLEVELAND, O.—Bids are asked until March 15 for constructing the fourth section of the Walworth St. main sewer, as stated in our advertising columns. M. E. Rawson, Ch. Engr.; Geo. R. Warden, Dir. Pub. Wks.

WELLSVILLE, O.—Riggs & Sherman, 613 The Nasby, Toledo, O., have been engaged to prepare plans for a system.

TERRE HAUTE, IND.—R. H. Sparks, Cy. Engr., writes us that all the available money this season will be spent for new sewers.

COLDWATER, MICH.—Riggs & Sherman, Toledo, have been retained again this year for sewage and paving work in this place.

LAWRENCEVILLE, ILL.—J. W. McCleaver, Mayor, writes us that a 20-year franchise for a system has been granted to the Bray Construction Co., Belleville, Ill. Work will be begun as soon as the ground is in condition.

QUINCY, ILL.—A hearing will be given March 6 on the subject of building a storm water sewer in Cedar St. at a cost of about $8,400.

KESHENA, WIS.—Bids are asked until March 3 for furnishing the materials and for constructing a system and water-works at the Menominee Indian Schools. D. H. George, agent, Keshena; W. A. Jones, Comr. Indian Affairs, Washington, D. C.

LA CROSSE, WIS.—The question of building certain sewers at a cost of $30,000 is being considered.

CEDAR RAPIDS, IA.—It is proposed to construct sewage disposal beds and to build sewers in the southwestern district of the city. F. H. Snow, Consult. Engr., Brockton, Mass.; G. H. Merridith, Cy. Engr.; R. M. Buck, Chn. Com.

ST. CLOUD, MINN.—Plans have been prepared for new sewers. L. W. Rundlett, Consult. Engr., St. Paul, Minn.

WASECA, MINN.—Chas. A. Smith, Mayor, writes us that a system may be constructed at some future date.

SHERMAN, TEX.—Specifications for the system have been completed by Geo. W. Ruch, Pres. and Engr. Sherman Sewerage Co.,2851 Hutchinson Ave.,Philadelphia, Pa. The system will have about 129,000 ft. of 20 to 6-in. pipe sewers. It is stated that about 15 miles additional sewers will be built after this section is completed. Judge R. R. Hazlewood is interested.

DENVER, COLO.—Jas. J. Fleetwood, Denver, the lowest bidder at $244,159 for constructing the Capitol Hill storm sewer, has forfeited his check of $10,000. The next lowest bidders were the J. M. O'Rourke Construction Co. and the Queen City Construction Co., both of Denver, at $309,735 and $322,807, respectively.

ROSWELL, N. MEX.—E. L. Wildy, Chn. Town Trustees, writes us that this city is desirous of establishing a system and water-works, and it should like to have estimates on the cost of the same. It is proposed to issue bonds for the improvements.

SEATTLE, WASH.—Bids have been asked for building 1¼ miles of pipe sewers to cost $12,000. After the contract for this work is let bids will be asked by the city clerk for building sewers in the Upper Pontius district to cost about $27,500—The following bids were received Feb. 2 for constructing the Lower Pontius sewer: Erickson & Roseleaf, $25,930; F. McLellan, $26,799; Stinrat & Goetz, $27,315; T. Ryan, $27,538.

SAN DIEGO, CAL.—City Engineer Capps has completed plans for about 42 miles of pipe sewers for the district of the city north of N St.; estimated cost, $108,229.

OTTAWA, ONT.—It is stated that Laverdure & Laflamme, Ottawa, have been awarded the contract, at $107,695, for constructing Sec. 3 of the new trunk sewer. The next lowest bids were as follows: Jos. Bourque, Hull, Que., $127,000; ex-Alderman Paulin, $128,000; Labelle & Payette, Montreal, Que., $149,000. The contract is but one of several which are about to be given out, comprising an outlay of about $1,000,000. The estimate of the city engineer for the main line is $425,000, and in the plan of the council is included the extension of the system all over the city.

MEXICO, MEX.—Philo N. French, Stratford Ave., Pittsburg, Pa., Pres. San Antonio Sewer Pipe & Mfg. Co., has been awarded the contract for furnishing sewer pipe for the system for this city, amounting to about $600,000, exclusive of freight. The pipe will range from 6 ins. to 4 or 5 ft.

GARBAGE DISPOSAL—STREET CLEANING

BOSTON, MASS.—The garbage disposal plant, at Old Harbor Point, belonging to the New England Sanitary Product Co. and the Semet-Solvay Co. was destroyed by fire Feb. 10, causing a reported loss of about $28,000. David Martin, Pres., Philadelphia, Pa.

MERIDEN, CONN.—Bids are asked until Feb. 16 for removing the garbage twice a week for a year, according to reports. E. S. Smith, Chn. Com.

NEW YORK, N. Y.—Bids are asked by the department of parks, the Arsenal, Central Park, Manhattan, until Feb. 23 for furnishing three sprinkling wagons, three sprinkling carts, etc.

ALLENTOWN, PA.—Bids are asked by the Mayor until Feb. 25 for removing garbage, according to reports.

ATLANTA, GA.—Bids are asked, it is reported, by the board of health until Feb. 17 for disposing of the garbage, etc.

PASADENA, CAL.—W. B. Clapp, Cy. Engr., has reported against the construction of a crematory.

SAN DIEGO, CAL.—E. E. Capps, Cy. Engr., has prepared plans for garbage disposal boat to be 55 ft. long, 16 ft. wide and propelled with a 20-HP. gasoline engine. Garbage bunkers are to be steel lined, 6 in number, covered with air-tight hatches.

STREETS AND ROADS

BOSTON, MASS.—The commissioners of the Metropolitan board, Boston, propose to construct a road from Boylston to West Boylston.

BROCKTON, MASS.—De Witt C. Packard, Cy. Clk., informs us that an act of the legislature authorizing a loan of $100,000 for street work is now being petitioned for.

NANTUCKET, MASS.—The town council has appropriated $3,000 for extending Orange St. and $1,000 for repairing on Union St.

ALBANY, N. Y.—Contracts have been awarded to T. Henry Dumary for brick paving on Dove and Hamilton Sts., at $3,952 and $15,005, respectively, and Mulderry Bros., at $14,462, for paving on Elizabeth St. A petition is being signed for paving Morton St. with brick, from Clinton St. to Delaware Ave.

BATH ON HUDSON, N. Y.—Petitions are being circulated to have an act passed by the legislature for paving the streets.

BUFFALO, N. Y.—The property owners and North Buffalo Business Mens' Association will propose the paving of Tonawanda St. with asphalt.

GLOVERSVILLE, N. Y.—M. V. B. Stetson, Cy. Clk., informs us that it is proposed to pave about 15,000 sq. yds. with brick. It has not yet been decided when bids will be asked. C. Fiske, Jr., Engr.

NEW YORK, N. Y.—Bids are asked by the department of parks, Arsenal, Central Park, until Feb. 23 for one 12-ton steam road roller.——Bids are asked by the department of highways, 150 Nassau St., until Feb. 21 for furnishing 20,000 cu. yds. of sharp sand, 100,000 yds. of No. 6 paving cement and 2,000 cu. yds. of washed gravel. James P. Keating, Comr.

ROCHESTER, N. Y.—It is proposed to improve Genesee Park Boulevard, Brooks Ave. cement walks, Selye Terrace roadway, Genesee St. cement walks, Bartlett St. cement walks and Park Ave. macadam roadway. Peter Sheridan, Cy. Clk.

WATERFORD, N. Y.—J. W. Brooks, Village Pres., informs us that a bill has been presented for the paving of Broad St. The hearing will last about two weeks.

YONKERS, N. Y.—Bids are asked by the council until Feb. 27 for grading on Riverside Ave., according to reports.

BLOOMFIELD, N. J.—The county freeholders, Newark, have awarded a contract to Francis J. Marley, at about $15,465, for macadamizing Broad St., and to Francisco Bros., at $3,075, for Bay Ave.

ELIZABETH, N. J.—The Meadow Reclamation Co., Elizabeth, recently incorporated, proposes to construct a road from near Seventh St. across the meadows to Newark Bay.

ELIZABETH, N. J.—James A. Long, of Union, John H. Thompson, of Cranford and others have been appointed a commission to survey a route for the proposed extension of South Front St. through Linden township to Tremley.

PASSAIC, N. J.—An ordinance is before the council to grade Water St. between Aspen Place and Park Place. Richard B. Tindall, Cy. Clk.

McKEES ROCKS, PA.—An ordinance has been passed by the council to grade and pave Bell Ave., at a cost of about $8,000.

PHILADELPHIA, PA.—Bids are asked until Feb 17 for grading and asphalt paving on Broad St. Thos. M. Thompson, Dir. Pub. Wks.

SCRANTON, PA.—Bids are asked until 7.30 p. m., Feb. 16, for paving on East Market St. with brick. M. T. Lavelle, Cy. Clk.

BALTIMORE, MD.—The council has passed an ordinance to pave Eager St. with Belgian block, and to appropriate $21,000 for paving Light St.

PETERSBURG, VA.—T. R. Dunn, Cy. Engr., writes us that plans and specifications have been secured from Samuel M. Gray, Providence, R. I., for brick and asphalt paving. The question is now being considered, and it is probable that about $50,000 will be expended during the coming season.

SCOTTSBORO, ALA.—Bids are asked until March 1 for the purchase of $125,000 of road bonds. R. S. Skelton, Pres. Road Comn.

BATAVIA, O.—A petition will be presented to the county commissioners March 6 by G. A. Dillinger and others, of Goshen township, for the construction of a road about 1,000 ft. long parallel with the railway.

CLEVELAND, O.—Bids are asked until March 7 for grading, curbing and brick paving on portions of seven streets. Geo. R. Warden, Dir. Pub. Wks.——The board of control has been authorized to prepare plans for grading, curbing and brick paving on Auburn St., Starkweather Ave. and other streets.

CLEVELAND, O.—Bids are asked until March 14 for Medina block paving, grading, etc., on Perkins Ave., from Case Ave. to Wilson Ave. Geo. R. Warden, Dir. Pub. Wks.

ORRVILLE, O.—The council has engaged Cyrus Markly, Wooster, O., to prepare plans for the paving of Main St.

SPENCER, IND.—An election will be held Feb. 24 to vote on the question of constructing 11 miles of roads in Clay and Washington townships; estimated cost, $16,614. The roads to be improved are the Spencer and Ellettsville, Freeman and White Hall and Hardscrabble and Ellettsville Roads.

GRAND RAPIDS, MICH.—Geo. M. Ames, Cy. Engr., informs us that estimates of costs have been prepared for paving Canal St. with brick and asphalt; also for paving East Fulton St. from Jefferson Ave. to Union St. with asphalt and Medina stone blocks on the steep portions of the work.

NORMAL, ILL.—It is proposed to pave the road between Normal and Bloomington; estimated cost, with asphalt and concrete curb and gutter, $25,175; brick, $20,988.

MINNEAPOLIS, MINN.—Bids are asked until Feb. 24 for 37,000 sq. yds. of brick paving on 6-in. concrete foundation, and 34,000 sq. yds. of Kettle River sandstone paving. G. W. Sublette, Cy. Engr.; L. A. Lydiard, Cy. Clk.

ST. LOUIS, MO.—Bids are asked by the board of public improvements until Feb. 24 for grading on 12 streets and for brick paving, granite curbing, etc., on portions of 15 streets. Robt. E. McMath, Pres.; Emery S. Foster, Secy.

COLORADO SPRINGS, COLO.—County Commissioners Doran and Sinton are considering the advisability of constructing a road from Victor to Elkton, Anaconda and Cripple Creek.

TORONTO, ONT.—The board of control has awarded contracts to the Paving & Construction Co. for asphalt paving, at $3,095, and for brick, at $2,666; J. McBean, brick, at $7,344; J. F. Connolly, brick, at $3,787; J. H. McKnight, macadam, at $2,898.

MANUFACTURING PLANTS.

BANGOR, ME.—Press reports state that the Great Northern Paper Co., capitalized at $4,000,000 by Oliver H. Payne, Grant B. Schley and others, of New York, will begin immediately the erection of mills on the Penobscot River, to have a daily capacity of 250 tons of paper.

BURLINGTON, VT.—The Queen City Cotton Co. is said to contemplate the erection of an addition to its plant in this city to accommodate about 20,000 additional spindles.

TRENTON, N. J.—The 3-story brick machine shop of the New Jersey Steel & Iron Co. was destroyed by fire Feb. 12, causing a total estimated loss of $50,000. Cooper, Hewitt & Co., owners, New York.

COATESVILLE, PA.—The Lukens Iron & Steel Co. will erect four or six additional open-hearth furnaces; also a universal plate mill, according to reports.

RANKIN STATION, PA.—It is announced that a company represented by John F. Baxter, Carnegie Bldg., Pittsburg, will erect a new mill in this borough adjoining the works of the Duquesne Forge Co.

ASHLAND, MD.—Emmanuel Herman, J. F. C. Talbott and others are said to be interested in the proposed erection of a new cotton and yarn mill at Ashland; capital stock, $100,000.

BALTIMORE, MD.—The Maryland Cement Co., Builders' Exchange Bldg., informs us that bids will soon be let for the erection of three new buildings for the manufacture of cement, which, together with the machinery, will cost about $30,000. Henry Brauns, Arch., Builders' Exchange Bldg.

COCKEYSVILLE, MD.—A $50,000 cotton mill will probably be established here in the spring by Joshua F. Cockey, H. E. Bartleson, Joseph Cairnes and others.

NEWPORT NEWS, VA.—The Newport News Abattoir Co., organized with a capital stock of $1,000,000, will build a plant near the city limits at an estimated cost of $500,000. E. Palmer, Pres., Merchantsville, N. J.

PARKERSBURG, W. VA.—Reports state that the Oil Well Supply Co., now located at Bradford, Pa., will erect an extensive plant at Parkersburg for making the woodwork required in digging artesian wells.

HICKORY, N. C.—J. M. Odell, Concord, N. C., and others, are interested in the development of the water power of the Catawba River, near Hickory, and the erection of a large cotton mill nearby.

COLUMBUS, O.—Plans have been prepared, according to reports, for a 4-story brewery building, 130 × 150 ft., for the Columbus Brewing Co., Columbus; estimated cost, $60,000. Mueller & Mildner, Union Trust Bldg., Detroit.

MANSFIELD, O.—A fire here Feb. 10 damaged the Baxter stove works; reported loss, $100,000.

TOLEDO, O.—Baker Bros. inform us that Henry E. Brown has been awarded the contract for erecting an extension to their foundry, 70×110 ft.; an extension to their chasing room, 30×50 ft.; and also to their pattern shop, 30×4 ft.

DUNKIRK, IND.—The Ohio Flint Glass Co., composed of Edwin Reed, Toledo, O.; M. L. Case, Dunkirk, and others, has decided to rebuild the factory at Dunkirk, recently destroyed by fire.

CHICAGO, ILL.—The Falkenau Construction Co., 110 La Salle St., has been awarded the contract for erecting an 8-story building, 124 × 50 ft., a 7-story wing, 27 × 72 ft., and a building 55 × 100 ft., for the Western Electric Co.; estimated cost, $250,000. S. A. Treat, Arch.

CHICAGO, ILL.—Walter T. Clark & Co. have been awarded the contract for the erection of a new $100,000 foundry for the Crane Co., at Canal and 12th Sts.

ALBUQUERQUE, N. MEX.—The Southwestern Brewery & Ice Co. has awarded the contract for the brick work on its new $25,000 brick stock house to Dodd & Lembke; for carpenter work, J. W. McQuade, and for cast-iron to the Albuquerque Foundry & Machine Co.

MANILA, PHILIPPINES.—Reports state that bids ranging from $170,000 to $250,000 were received from the following for the proposed ice-plant to be built for the U. S. government at Manila: The Vilter Mfg. Co., Milwaukee, Wis.; Fred W. Wolf Co., Chicago; Frick & Co., Waynesboro, Pa.; De La Vergne Refrigerating Machine Co., New York, and the Newburgh Ice Machine Co., Newburgh, N. Y.

YONAGO, JAPAN.—Press reports state that bids are asked by Kota Nokahara, of Yonago, Hoki Province, for the erection of an ice plant at Yonago.

GAS PLANTS.

RICHMOND, VA.—The question of constructing a new plant is being considered. Councilman Wallerstern, Chn. Com.

EAST LIVERPOOL, O.—The Gas & Construction Appliance Co., Ltd., will soon let a contract for 100,000 brick for the proposed new plant. It is reported that the director of the company has visited Pittsburg, Pa., to secure bids for the gas holder.

WARREN, O.—An ordinance is being considered by the council to grant a franchise to C. D. Gibbons and others of Cleveland, for establishing a gas plant.

VINCENNES, IND.—Bids are asked until Feb. 27 for lighting the streets and public buildings of this city for a period of 10 years with, approximately, 200 gas lamps and 175 arc lamps; the gas service to begin Dec. 27, 1900, and the electric light service April 29, 1900. Bond, $20,000; deposit, $5,000. Chas. Langel, Cy. Clk.; Bryan & Humphrey, Consulting Engrs., St. Louis, Mo.

NEW COMPANIES.—Eastern Star Oil Co., Los Angeles, Cal.; $50,000; to develop and sell oil; W. L. Hardison, Guy L. Hardison, of Santa Paula; E. A. Edwards, A. P. Maginnis, F. K. Edwards, of Los Angeles.

Newport Oil Co., Santa Ana, Cal.; $50,000; J. Irwin, R. Egan, R. T. Harris, H. L. Bachtell and R. McFadden.

Lody Gas & Oil Co., Gowanda, N. Y.; $2,200; William H. Bard, E. C. Fisher, G. B. Taylor, B. L. Kimble and Michael McIntyre.

Eastern Ohio Oil Co., Steubenville, O.; $3,200; to lease lands for the production of oil and gas; William Frendenberger, John L. Means, J. P. Edgar, J. M. Starrett, J. A. Baldwin and J. C. Cape.

Tippecanoe Oil & Gas Co., Tippecanoe, O.; $5,000; to drill for oil and gas; J. W. Fritz, W. A. Boyd, R. H. Bean, H. W. Auld, William Groves.

White Oil Co., Sistersville, W. Va.; $8,000; to develop oil and gas wells; G. B. Schiemaker, G. B. West, Charles E. Bailey and others.

Nassau Acetylene Gas Generator Co., Jersey City, N. J.; $100,000; to do business in New Jersey and other states; Frank S. Hutchinson, James Havens and Edward Machete.

MISCELLANEOUS CONTRACTS.

TELEPHONE LINE.—Emporia, Kan.—The Missouri & Kansas Telephone Co. will construct a line from Emporia to Council Grove.

PARK.—Denver, Colo.—The park commissioners have decided to purchase land and expend about $29,000 for laying out new parks.

TELEPHONE LINE.—McComb, O.—The council has granted a franchise to Elva Dick for constructing a telephone line to Shawtown.

WHARF.—Sand Point Road, N. B.—Engineer Peters, St. John, N. B., is preparing plans for a wharf about 70 ft.×1,500 ft., at South Rodney wharf.

PIERS.—Philadelphia, Pa.—The Philadelphia & Reading Ry. Co. has applied to the Delaware River committee for permission to reconstruct piers A and G.

TELEPHONE SYSTEM.—Richmond, Ind.—Perry J. Freeman, A. C. Lindmuth, John M. Loutz and others have been granted a franchise for a telephone system.

TELEPHONE EXTENSION.—Jacksonville, Fla.—It is reported that the Florida East Coast Telephone Co. will extend its lines from Jacksonville to Key West. P. H. Loud, Jr., Secy., Miami.

TELEPHONE LINES.—Grand Island, Neb.—It is reported that the Nebraska Telephone Co. proposes to construct a line from this place to St. Paul, Minn.; also to Ord and to Brokenbow, Neb.

DIKE.—Elmira, N. Y.—A bill will be presented to the legislature for an appropriation of $10,000 for constructing a dike on the south bank of the Chemung River between Lake St. and Madison Ave.

PARK WORK.—Peoria, Ill.—It is proposed to make certain improvements to the park at Prospect Heights in the summer, including new walks, an artesian well, an observation tower, bowling alley, etc.

COAL MINING CONCESSION.—Caracas, Venezuela.—Reports state that the Venezuelan government is about to award a concession to Lanyoni, Martini & Co., Rome, Italy, for working the Guanta coal mines.

DAMS.—Minneapolis, Minn.—Maj. F. B. Abbott, U. S. Engr., Minneapolis, has awarded a contract to Chas. M. McCoy, 402 Lumber Exchange, for constructing dam No. 2, Mississippi River; requiring about 750,000 ft. of timber.

PIER.—Atlantic City, N. J.—Plans have been prepared by Thomas A. Parker, Pres. of the Palace Circle Co., for a new steel pier about 150×100 ft. at Pennsylvania Ave., to be constructed by the Auditorium Pier Co.

METAL WORK.—Baltimore, Md.—Bids are asked until March 15 for furnishing and constructing the metal work for Hooper Island lighthouse, as stated in our advertising columns. Lieut. Col. W. A. Jones, U. S. Lighthouse Engr., Baltimore.

CEMENT.—New York, N. Y.—Bids are asked until March 10 for furnishing American Portland cement, at Forts Schuyler and Totten, N. Y., as stated in our advertising columns. Maj. H. M. Adams, U. S. Engr., Army Bldg., New York.

PNEUMATIC PIPE SYSTEM.—Cincinnati, O.—The Cincinnati Delivery, Power & Refrigerating Co. has applied to the board of city affairs for permission to lay a system of underground conduits on Sixth St. and Central Ave., for supplying compressed air.

CEMENT, IRON BEAMS, ETC.—Baltimore Md.—Bids are asked until March 10 for furnishing at North Point, Hawkins Point, Rock Point and Fort Carroll, Md., cement, stones, brick, iron beams and lumber, as stated in our advertising columns. Col. Peter C. Hains, U. S. Engr., 812 St. Paul St., Baltimore.

DRAINAGE SYSTEM.—Albion, Ind.—Reports state that the county commissioners propose to construct a drainage system to cost about $75,000. The main canal will be 10 miles long and laterals amounting to 60 miles, requiring about 654,790 cu. yds. of excavation.

SEA WALLS.—Annapolis, Md.—The navy department has awarded a contract to P. J. Carlin & Co., Garfield Bldg., Brooklyn, N. Y., at about $150,000, for the first year's work on the proposed new sea wall along the water front of the naval academy. Arch., Ernest Flagg, 54 Broad St., New York,

PARK WORK, ETC.—New York, N. Y.—Bids are asked by the department of parks, Arsenal, Central Park, until Feb. 23 for furnishing 800 settees, 300 cu. yds. limestone and 200 cu. yds. of trap rock screenings, 350,000 sq. ft. of sod, 5,000 cu. yds. of garden mould, lumber, etc.

TELEPHONE LINE.—East Schuyler, N. Y.—J. H. J. Watkins, Millard Sterling, A. M. Tanner and others propose to organize a telephone company and construct a line between Frankfort and West Schuyler. R. H. Smith, Seymour Johnson and Ward Goodwin have been appointed a committee to purchase material.

CONTRACT PRICES.

RAILWAY.—Rutland, Vt.—We are informed that the following bids were received by the Rutland-Canadian R. R. Co. Feb. 8 for constructing about 50 miles of railway, main line and sidings, as advertised in Engineering News; John W. Burke, Ch. Engr., South Hero, Vt., and 45 Broadway, New York; the work is to be completed by Sept. 1, for which time bids are on, except where otherwise stated:

BIDS RECEIVED AT RUTLAND, VT., FEB. 8, 1899, FOR CONSTRUCTING 50 MILES OF RAILWAY LINE.

Quantities.		Weand, Mc-Dermott & Cushing, New York.	Brodhead Contracting Co., Easton, Pa.	J.W. Whalen & Co., Whitehall, N.Y.	J.C.Rodgers, J.M.Waddle and L.B.Fitch, of New York. Sept. 1.	J.C.Rodgers, J.M.Waddle and L.B.Fitch, of New York. Oct. 1.	O'Brien & Sheehan, New York.	Farrell, Hopper & Co., New York.	Warren-Scharf Asp. Paving Co., New York.	Ferguson Contracting Co., New York.	J. P. McDonald & Co., New York.	Engineering Contract Co., New York.
Excavation: Earth	540,000 cu. yds.	$0.20	$0.25	$0.22	$0.26	$0.24	$0.18	$0.23	$0.16	$0.23	$0.1975	$0.22 or .20
Loose rock	10,000 " "	.60	.45	.50	.53	.50	.40	.40	.60	.50	.47	.50 " .50
Solid rock	100,000 " "	.90	1.00	.90	.95	.90	.40	.75	.83	.75	.85	.95 " .90
Rubble stone embankment	350,000 " "	1.30	.80	.98 or .95	.80	.77	.40	.75	.61	.92 or .90	.625 or .598	.92 " .88
	500,000 " "	1.30	.85	1.05 " 1.02	.84	.80	.40	1.25 or 1.05	.61	.98 " .95	.645 " .625	.86 " .83
Masonry: Bridge	3,000 " "	10.00	15.00	12.00	10.50	10.00	9.00	12.00	12.00	15.00	10.00	9.00
Highway bridge	4,000 " "	5.00	6.00	6.00	6.30	6.00	5.00	5.00	6.50	6.00	4.50	4.60
Arch culvert	200 " "	12.00	10.00	12.00	12.60	12.00	11.00	12.00	10.00	15.00	10.50	9.50
Box culvert	2,000 " "	3.00	6.00	6.00	5.25	5.00	4.00	4.50	3.25	5.00	4.50	4.00
Caissons	1,100 " "	10.00	12.00	7.00	12.60	12.00	10.00	7.00	6.60	18.00	8.50	8.50
Cribs	1,700 " "	6.50	7.00	2.00	3.70	3.50	5.00	1.75	3.10	18.00	5.50	2.88
Riprap	10,000 " "	2.50	2.00	1.50	1.60	1.50	1.75	1.00	1.15	2.50	2.00	.90
Dredging	20,000 " "	1.00	1.00	.20	.42	.40	.25	.40	.44	.35	.35	.23
Stone cutting	5,000 sq. ft...	.50	.50	.20	.42	.40	.15	.20	.25	.35	.50	.30
Piling	24,000 lin. ft..	.25	.20	.20	.21	.20	.20	.20	.25	.40	.28	.23
Timber: On land	30,000 ft. B.M.	30.00	25.00	20.00	29.40	28.00	30.00	30.00	24.00	30.00	30.00	26.00
In lake	50,000 " "	35.00	35.00	22.00	26.25	25.00	30.00	30.00	30.00	50.00	33.00	26.00
Tracklaying: Main line	44 miles...	400.00	300.00	300.00	315.00	300.00	250.00	300.00	360.00	350.00	425.00	250.00*
Sidings	4 "	300.00	300.00	300.00	315.00	300.00	250.00	300.00	350.00	400.00	425.00	160.00
Frogs placed	30 each...	37.00	25.00	10.00	21.00	20.00	15.00	10.00	25.00	25.00	15.00	25.00
Switches placed	30 "	150.00	25.00	15.00	26.25	25.00	10.00	15.00	35.00	25.00	20.00	25.00
Ballast: Stone	50,000 cu. yds.	1.00	.95	.59	.63	.60	.35	.35	.70	.60	.775	.31
Gravel	70,000 " "	.50	.45	.40	.84	.80	.30	.35	.56	.50	.575	.26
Total, stone embankment	500,000 cu. yds.	$1,100,010	$917,000	$923,450	$886,242	$843,790	$499,600	$993,525	$695,440	$956,950	$708,450	$787,946
Total, stone embankment	350,000 " "	967,810	772,300	741,450	746,242	713,290	439,600	613,025	581,440	788,950	604,700	679,946

Note.—Where two bids are given (.98 or .95) the first is for the work to be finished by Sept. 1; the second, for completion by Oct. 1. *$250.00 or $225.00, as per note.

Totals for Work if Completed Oct. 1.

Bidder.	Stone embankment. 500,000 cu. yds.	Stone embankment. 350,000 cu. yds.
J. W. Whalen & Co.	$908,450	$730,950
Farrell, Hopper & Co.	893,525	613,025
Ferguson Contracting Co.	941,950	778,950
J. P. McDonald & Co.	698,450	596,825
Engineering Contract Co.	755,246	648,246

GARBAGE DISPOSAL.—Chicago, Ill.—The following are the itemized bids of R. B. Mitchell, Pres. Thackery Incineration & Fertilizing Co., San Francisco, Cal., received Jan. 24, 1899, for garbage disposal: Incineration only, 48 cts. a ton if the city will guarantee to deliver over 1,600 tons a day to the plant, according to specification No. 1, and for specification No. 2 the tonnage bid is 45 cts. a ton for a minimum daily supply of 900 tons.

MACADAM PAVING.—Rochester, N. Y.—The following bids were received Jan. 28 for macadam paving in Alexander St.; contract let Jan. 31, to Whitmore, Rauber & Vicinus:

Bids Received at Rochester, N. Y., Jan. 28, 1899, for Macadam Paving in Alexander St.

Quantities.		Whitmore, Rauber & Vicinus.	Lauer & Hagaman.	F.A. Brotsch.	Rock Asph. Pavement Co.	H. N. Cowles.	W. H. Jones & Sons.	H. T. Oliver.	W. & C. H. Carson.	E. L. Oliver.	H.B.Hooker.
Pavement: Medina blk on conc.	700 sq. yds.	$2.55	$2.85	$2.25	$2.20	$2.40	$2.45	$2.25	$2.40	$2.30	$2.10
Macadam, trap rock	2,500 " "	.90	1.12	1.05	1.12	1.20	1.00	1.35	1.28	1.10	1.00
New crosswalks complete	800 lin. ft..	3.60	2.49	2.50	2.10	2.75	3.75	2.80	3.75	3.00	3.50
Curbs: 4-in.Medina in concrete*	1,000 " "	.38	.47	.44	.41	.40	.43	.43	.44	.39	.40
Redressed and reset*	1,000 " "	.15	.20	.18	.17	.15	.20	.25	.25	.15	.20
New surface sewer		22.00	25.00	22.00	21.00	22.00	23.00	30.00	25.00	20.00	22.00
Surface sewers rebuilt	7 each...	15.00	15.00	16.00	10.50	12.00	15.00	15.00	14.00	15.00	18.00
Laterals, 16 ft. lng, 6-in. v. pipe	6 " ...	5.60	4.00	8.00	7.75	10.00	6.50	6.00	8.00	8.00	7.00
Manholes: New	2 " ...	28.00	30.00	30.00	30.00	30.00	30.00	30.00	45.00	30.00	32.00
Rebuilt & adjusted to grd, with iron head		13.00	25.00	11.00	11.00	15.00	11.50	10.00	10.00	12.00	14.00
½-in water services with fixtures:											
North side, 23 ft. long	3 each...	11.92	15.00	11.50	12.25	15.00	13.75	8.00	12.00	12.00	12.00
South side, 9 ft. long	3 " ...	7.51	11.00	8.50	8.50	8.00	8.25	5.00	5.00	8.00	9.00
Cleaning main sewer	900 lin. ft..	.01	.10	.10	.09	.05	.05	.10	.10	.12	.06
Total		$5,150	$6,071	$5,428	$5,443	$5,805	$5,495	$6,224	$6,282	$5,553	$5,235

*With tile drain.

PLANK SIDEWALKS.—Rochester, N. Y.—The contract for laying 470 lin. ft. of new pine plank sidewalk, 4 ft. wide, including grading, 10 ft. wide, has been let to Wm. M. Roach at 23½ cts. a ft. The other bidders were J. Mathis & Son, at 24 cts., and John Regan at 26 cts. a ft.

ASPHALT PAVING.—Rochester, N. Y.—The following bids were received Jan. 28 for asphalt paving in Bartlett St.; contract let to Whitmore, Rauber & Vicinus, Rochester:

Bids Received at Rochester, N. Y., Jan. 28, 1899, for Asphalt Paving in Bartlett St.

Bidder.	Asp. pav'g, 2,100 sq.yds.	4-in. curb,* 1,750 lin.ft.	New surface sewers, 6, each.	New 6-in.§ vit. pipe laterals, 40, each.	Man-holes, 2, each.	½-in. water services.† North side, 20, each.	½-in. water services.† South side, 20, each.	Cem. side-walk,‡ 1,650 lin.ft.	Main sewr 12-in. vitfied pipe, 400 lin.ft.	Main sewr 15-in. vitfied pipe, 380 lin.ft.	Total.
Whitmore, Rauber & Vicinus	$1.70	$0.25	$25.00	$20.00	$25.00	$12.75	$9.75	$0.40	$1.39	$1.55	$7,263
Warren-Scharf Asphalt Paving Co.	1.85	.35	18.00	14.50	28.00	13.00	9.00	.50	1.75	2.25	8,079
Rock Asphalt Paving Co.	1.74	.38	23.00	19.50	32.00	14.55	11.00	.49	1.48	1.64	7,840
Rochester Vulcanite Pavement Co.	1.75	.43	23.00	18.00	30.00	16.00	8.00	.45	2.00	2.25	8,223
Charles H. Wiltsie	1.85	.43	20.00	20.00	30.00	13.00	10.00	.50	1.70	1.85	8,286

*Medina stone, set in concrete with tile drain. §These laterals are each 26 ft. long. †The services are with fixtures, and those on North side are 33 ft. long while the South side ones are 19 ft. ‡5 ft. wide including grading, 14 ft. wide. ‖Pipe is laid in concrete.

ENGINE HOUSE.—Pittsburg, Pa.—E. J. John, Ch. Clk., Dept. Pub. Safety, informs us that the following bids were received Feb. 8 for constructing fire engine house No. 29; all local bidders:

Bidder.	Extra Excavation, a cu.yd.	Extra Stone work, a perch.	Extra Concrete, a cu.yd.	Total without gas eng., etc.
Wm. Kerr's Sons	$2.50	$8.00	$9.00	$23,341
Kerr & Fox	2.10	6.50	8.50	22,459
Daniel Whitmore	1.00	5.00	6.00	22,501
Lydon & Henderson	.50	5.00	6.50	26,550
Jackson & Fulton	1.00	5.00	6.50	22,949
F. E. McGillick	.90	4.75	5.75	23,300
D. H. Crisman	.80	4.75	6.00	26,250
Martsolf Bros.	1.00	6.50	7.50	25,676

Gas Engine, Etc.—The following are the bids for furnishing a gas engine, dynamo, etc., for the engine house; (1) being for Westinghouse direct-connected; (2) Westinghouse belt; (3) Hicks gas engine, Holtzer dynamos direct-connected, (4) same with belt-connection; (5) Pierce Krouch gas engine: Kerr's Sons, (1) $1,600; Kerr & Fox, (1) $1,320, (2) $1,100, (3) $867, (4) $590; Daniel Whitmore, (3) $867, (4) $590; Lydon & Henderson, (3) $1,457; Jackson & Fulton, (5) $824; F. E. McGillick, (1) $1,200; D. H. Crisman, (3) $1,250; Martsolf Bros., (1) $1,824. The prices on gas engine and dynamo are separate, so that if desired it can be added. The prices for extra excavations, etc., are given so that should suitable foundations not be secured at contemplated depths, work can proceed until solid ground is reached without another contract.

SEWER PIPE.—Manchester, N. H.—The following bids were received by the street and park commission Feb. 4, 1899, for furnishing sewer pipe for the season: Geo. D. Goodwill, 80.3% off list prices, Akron pipe; Pike & Heald, 79%, Akron pipe; Thos. A. Lane & Co., 80¼%, Akron pipe; Manchester Heating & Lighting Co., 78%, Portland pipe.

PAVING.—Toledo, O.—The city clerk received the following bids Feb. 6, 1899, for paving in Monroe St. and in Milburn Ave.: Asphalt paving in Monroe St.—Frank E. Cole, $2.15 a sq. yd.; Warren-Scharf Asphalt Paving Co., $2.30; Brick paving in same street—Harry G. Jennison, $1.50 and $1.53. Asphalt paving in Milburn Ave.—Warren-Scharf Asphalt Paving Co., New York, $1.89; John J. Carland, $2.10; Brick paving in same avenue—John J. Carland, $1.35.

CEMENT, STONE, BRICK, ETC.—Baltimore, Md.—The board of awards on Feb. 8, 1899, let contracts for the subway commission amounting to about $40,000. Cement for the subways will be furnished by George Hay at 84 cts a barrel for Union, and 74 cts. for Round Top. Crushed stone will be furnished by the Schwind Quarry Co. at 93 cts. a ton. Sand will be furnished by D. A. Leonard at 60 cts. a ton. Brick will be furnished by J. R. Busey & Sons at $5.70 a 1,000.

ELECTRIC CONDUITS.—Redlands, Cal.—F. C. Finkle, Ch. Engr., Redlands Electric Light & Power Co., Redlands, informs us that the following bids were received Jan. 27, 1899, for making electric conduits, the company is to furnish the cement, sand, gravel and other materials, the value of which is estimated at about $7,000; contract was awarded W. J. Keatinge:

Bidder.	22-in. conduit, 15,000 ft.	Man-holes, 20, each.	*Reducers, 40, each.	Total.
C. Leonardt, Los Angeles	$0.18¾	$2.00	$3.00	$2,973
Arthur S. Bent, Los Angeles	.21¼	2.00	3.00	3,348
Robt. Taylor, Redlands	.23	2.50	4.00	3,660
W. J. Keatinge, Los Angeles	.49	1.00	2.00	2,950

*26 to 22-in. reducers. The conduit is of concrete.

BRICK PAVING.—Albany, N. Y.—Our correspondent informs us that the following bids were received last week for brick paving in Hamilton St.; both Mulderry Bros. and T. H. Dumary bid on Catskill brick and Helderberg cement, and the latter's bid was accepted:

Quantities.		Mulderry Bros.	T. H. Dumary.	E. F. Dillon.
Brick pavement	4,660 cu. yds.	$1.70	$1.63	$1.80
Curb: Straight	2,620 lin. ft..	.57	.62	.60
Circular	122 " "	1.00	.80	.70
Relay'g brk on conc.	3 sq. yds.	1.50	1.00	2.00
Curb, on sand	30 lin. ft..	.20	.50	.25
Sod.	3,400 sq. yds.	.18	.20	.18
Flagstones: New 5-ft.	16,900 sq. ft...	.16	.14	.18
Relaying	1,640 " "	.04	.06	.04
Excavation	8,200 cu. yds.	.21	.20	.35
Lumber	3,500 ft. B.M.	18.00	18.00	20.00
Receiving basins	3 each...	80.00	80.00	65.00
6-in. bends	48 " ...	.40	.40	.35
6-in. vitrified pipe	620 lin. ft..	.60	.60	.55
Days' labor*	76 days...	1.50	1.50	1.50
Days to complete at $5 a day		20	15	25
Total		$15,560	$15,005	$17,510

*Pounding backfill.

Mulderry Bros. have been awarded the following contract for paving with Catskill brick in Elizabeth St.: Brick paving (5,480 sq. yds.), $1.65; new granite curb, straight (2,430 ft.), 35 cts.; circular curb (360 ft.), $1.00; relaying sand foundation (50 sq.yds.), 40 cts.; concrete foundation (5 yds.), $1.50; relaying curb on sand (50 lin.ft.), 20 cts.; on concrete (30 ft.), 30 cts.; brick sidewalk (25,500 sq. ft.), 9 cts.; new 5-ft. flag sidewalk (5,580 ft.), 16 cts.; relaying sidewalk (9,800 ft.), 2 cts.; 6-in. pipe (84 ft.), 60 cts.; 6-in. bends (6), 50 cts. each; labor pounding backfill (11 days), $1.50; receiving basins (8), $75 each; lumber (5 M. ft. B.M.), $18; days to complete work at $5 a day, 20; total, $14,462.—T. H. Dumary has been awarded the contract for 1,120 yds. of brick paving in Dore St., at $1.75 for Catskill brick and Helderberg cement.

PUBLIC LIGHTING.—Minneapolis, Minn.—The following bids were received Jan. 21, 1899, for lighting the streets for the ensuing year: Gas lighting—Welsbach St. Lighting Co., of America, Chicago, Ill., moonlight schedule—100 lights burning 2,238 hours at $26.50 each per year, for 2,000 hours at $25.50, for 2,100 hours at $26.00; all-night schedule—100 lights burning 3,600 hours at $31.50 each per year. Minneapolis Gas Light Co., $1 per M. ft., burners to consume 5 cu. ft. an hour and burn 1,800 hours a year; $4 a post a year for care and maintenance. Electric Lighting—Minneapolis General Electric Co., 164 all-night schedule nominal 2,000-c. p. at $112 a light a year; 637 moonlight schedule, $96. Bids on gasoline lighting were rejected, and the gas inspector directed to do the lighting.

DREDGING.—Baltimore, Md.—N. H. Hutton, Engr., Harbor Bd., City Hall, informs us that the following bids were received Feb. 8, 1899, for about 250,000 cu. yds. of dredging; two bidders of Baltimore; contract awarded the Baltimore Dredging Co.:

Bidder.	Channel and harbor, 145,000 cu. yds. cts.	Back basin, 30,000 cu. yds. cts.	Head of basin & docks in main harbor, 60,000 cu. yds. cts.	Docks in middle branch, 15,000 cu. yds. cts.
Baltimore Dredging Co.	9¼	11⅜	11½	11½
Sanford & Brooks Co.	9¾	12	12½	12½
Va. Dredg. Co., Richmond	11	13	14	13

ASPHALT PAVING.—Winnipeg, Man.—C. J. Brown, Cy. Clk., informs us that the following bids were received Oct. 19, 1898, for asphalt paving; the bids were not made public until Jan. 30, when it was decided to have the work done by day labor: (1) Warren-Scharf Asphalt Paving Co., New York; (2) Kelly Bros. & Co., Winnipeg; (3) H. N. Reittan, Cy. Engr. (estimate):

		1.	2.	3.
Asphalt paving	16,800 sq. yds.	$2.73¼	$2.71½	$2.21
Ry. track*	1,230 " "	2,31	2.25	2,27
Natural stone curb:				
From quarry	2,960 lin. ft.	1.28	1.30	1.20
To radius of 6 ft	180 " "	1.50	1.50	1.30
Total		$52,806	$52,498	$43,806

*Brick or Scoria block.

SEWERS.—Rochester, N. Y.—The executive board received the following bids Jan. 28 for constructing the East Avenue sewer; contract was let to Thos. F. Kearney:

BIDS RECEIVED AT ROCHESTER, N. Y., JAN. 28, 1899, FOR CONSTRUCTING THE EAST AVENUE SEWER.

Quantities.		Thomas F. Kearney.	F. A. Brotsch.	Rock Asp. Pavement Co.	Chambers & Casey.	W. H. Jones & Sons.	Whitmore, Rauber & Vicinus.	Lauer & Hagaman.	Thomas Holahan.	Brayer & Albaugh.	H. N. Cowles.	William Fuller.
Surface sewers: New	6 each	$20.00	$23.50	$23.00	$25.00	$25.30	$28.00	$25.00	$25.00	$23.00	$25.00	$27.00
Connected	15 "	5.00	4.00	4.20	4.00	6.00	4.00	5.00	10.00	4.00	5.00	15.00
Rebuilt	10 "	20.00	10.00	10.00	20.00	15.00	20.00	12.00	20.00	16.00	15.00	20.00
Laterals, 20 ft. long, new, 9-in. vit.	20 "	9.00	22.00	18.00	15.00	20.00	15.00	8.00	15.00	20.00	30.00	35.00
20 ft. long, new, 6-in. vit. pipe	10 "	10.00	23.00	19.00	15.00	21.50	17.00	10.00	15.00	22.00	32.00	35.00
38 ft. long, 18-in., con. at st. line	7 "	25.00	75.00	61.00	60.00	85.00	92.00	80.00	50.00	94.24	75.00	76.00
" 18-in., new	3 "	40.00	70.00	57.00	60.00	80.00	82.00	70.00	50.00	93.10	70.00	145.00
" 15-in., con at st. line	3 "	25.00	70.00	57.00	58.00	75.00	90.00	80.00	45.00	89.60	60.00	76.00
" 15-in., new	1	40.00	65.00	52.00	58.00	80.00	80.00	70.00	45.00	89.60	55.00	145.00
Repaired & connected, main sewer	30 "	3.00	3.00	3.00	4.00	5.00	3.00	3.00	6.00	5.00	3.00	5.00
Deepened and connected at curb.	20 "	9.00	22.00	17.25	15.00	20.00	12.00	8.00	15.00	18.00	35.00	25.00
Manholes: New	12 "	30.00	32.00	36.00	32.00	30.00	35.00	35.00	35.00	34.00	35.00	40.00
Rebuilt, 24 and 15-in. sewer con.	1	30.00	25.00	25.00	40.00	30.00	50.00	25.00	40.00	21.00	40.00	70.00
Main sewer: 15-in. vit. pipe in conc.	40 lin. ft.	1.00	1.00	.98	1.34	1.10	1.20	1.35	1.50	1.87	1.25	2.75
60-in., brick, circular	12 " "	8.00	8.00	7.10	8.42	9.00	6.92	8.32	9.00	10.00	8.50	19.50
57-in., " "	370 " "	5.19	7.00	6.35	6.80	7.10	6.40	6.65	6.50	6.00	7.75	8.00
54-in., " "	2,020 " "	4.74	5.60	5.60	5.70	6.00	6.38	6.44	6.00	5.50	7.00	6.39
48-in., " "	725 " "	4.21	5.00	4.85	5.48	5.90	6.13	5.70	5.80	5.30	6.00	5.91
36-in., " "	675 " "	3.09	3.20	4.10	4.26	4.15	4.65	4.56	4.80	5.20	4.00	5.23
30-in., " "	665 " "	2.66	3.00	3.48	3.39	3.00	4.10	4.23	4.50	4.30	3.50	4.20
Slants in brick sewer: 6-in.	10 each	.50	1.00	1.00	.30	.30	.50	1.00	1.00	.25	.50	.60
9-in.	10 "	.50	1.00	1.00	.50	.50	:75	1.25	1.50	.35	.75	.60
Hood Junction, complete*	1	350.00	175.00	170.00	150.00	250.00	175.00	250.00	200.00	300.00	400.00	300.00
Ave. B with East Ave. sewer	1	250.00	75.00	80.00	125.00	150.00	125.00	225.00	120.00	250.00	250.00	200.00
42-in. brk sewer & con. with 15-in.	40 lin. ft.	160.00	5.00	4.20	282,00	6.00	5.10	5.72	200.00	250.00	200.00	200.00
Total		$20,947	$24,893	$25,083	$26,203	$27,352	$28,824	$28,361	$28,066	$27,584	$30,775	$31,5

*At Culver Road with East Side Trunk sewer.

STEEL BEAMS.—Washington, D. C.—The U. S. engineer, Washington, received the following bids Feb. 3, 1899, for furnishing steel beams for Sheridan Point, Va., and for Fort Washington, Md.: A. P. Roberts & Co., Philadeuphia, 1 31-50 cts.; total, $933; Carnegie Steel Co., Pittsburg, Pa., for Sheridan Point, 1 18-25 cts., for Fort Washington, 1 59-100 cts.; Phoenix Iron Co., 1 17-25 cts. $1,066; C. A. Schneider's Sons, 2.5 cts., $1,152.

CEMENT, CURBING, CHERT, ETC.—Atlanta, Ga.—The following bids were received by the council Feb. 6 for furnishing certain supplies laying curbing, etc.: Cement, Randall Bros., Louisville cement in paper sacks, 3.66 cts. a 100 lbs.; cloth sacks, 35.47 cts.; cooperage, 43.40 cts. a 100 lbs. Scriper Sons, Louisville cement, in paper sacks, 35 cts. a 100 lbs. V. H. Kriegshorber, Louisville cement, in paper sacks, 36.5 cts. a 100 lbs. Sidewalks—Davis Smith, 28 22-25 cts. cash; 32 cts. on time, per sq. yd.; Palmer Brick Co., 30 cts. cash; 34 cts. on time, and W. A. Hancock, 29 cts. cash; 33 cts. on time. Curbing—Venable Bros., 25 cts. cash a lin. ft.; Walsh & McCalpin, 24⅞ cts. cash or time; W. W. Griffin, 26 8-10 cts. cash; 29½ cts. on time; Liftwich & Crossley, 26 cts. cash, 31 cts. on time. Bishop & Phillips, 26 cash or time. Property owners have option of paying cash or one-fourth cash, balance 1, 2, 3 years. Chert, Randall Bros., 94 cts. a ton f. o. b. cars, Atlanta; Cohutta Chert Co., 82 cts., f. o. b. cars, Atlanta.

WATER PIPE, HYDRANTS, ETC.—Minneapolis, Minn.—The following bids were received Feb. 10, 1899, for furnishing 545 tons of 6, 8 and 12 in. cast-iron water pipe, f. o. b. cars; 2,000 lbs. to a ton: J. B. Clow & Sons, Chicago, $21.20 a ton; Addyston Pipe & Steel Co., Cincinnati, $20.35, payment July 1, $20.50, payment July 1 and Nov. 1; American Pipe & Foundry Co., Chattanooga, Tenn., $21.30; Dennis Long & Co., Louisville, $20.94, payment July 1, $21.14, payment July 1 and Nov. 1; Ohio Pipe Co., $18.98 and $19.48, on same payments as above. For furnishing 37 single and 8 double stream hydrants of Mathews pattern; South Park Foundry & Machine Co., St. Paul, $25.95 a ton; Crown Iron Works, Minneapolis, $29.50; R. D. Wood & Co., Philadelphia, $24.90; $27.90 for improved pattern; Chapman Valve Co., Boston, $31.50 single stream, $37.85 double stream. Special castings for the water department during the year: Crown Iron Works, $50.00 a ton of 2,000 lbs.; Gillette-Herzog Mfg. Co., Minneapolis, $34.75; Northwest Foundry Co., Minneapolis, $45; South Park Foundry & Machine Co., St. Paul, $39.40; Union Iron Works, Minneapolis, $46.

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INDUSTRIAL NOTES.

THE MARION STEAM SHOVEL CO., Marion, O., is busy in all departments, running its shops daily from 6.30 a. m. to 8 p. m.

THE PITTSBURG METER CO., Pittsburg, Pa., has the contract, according to report, to furnish 1,293 water meters to the city of Columbia, S. C.

THE PLEUGER & HENGER MFG. CO., St. Louis, Mo., has the contract to furnish 425 fire hydrants to that city.

WALSH'S HOLYOKE STEAM BOILER WORKS, Holyoke, Mass., has just completed and erected a steel standpipe, 25 × 40 ft., for the Cromwell Water Co., Cromwell, Conn.

THE PIKE'S PEAK TUNNEL MINING RY. CO., 27 William St., New York, has been placed in the hands of Mr. Louis Hannemann as Receiver, on application of Mr. John B. Toner, according to report.

THE ALBANY BOILER WORKS, Albany, N. Y., is reported to have an order for six 375-HP. and two 250-HP. boilers for South Africa. The company is also stated to have recently shipped five carloads of tanks to Honolulu, H. I.

THE WALKER CO., Cleveland, O., has orders for five sets of electric car equipments for the West Hartlepool Tramway Co. of England, 36 sets to be sent to Rome, Italy, and 18 sets for Krementschong, Russia, according to report.

THE P. H. & F. M. ROOTS BLOWER CO., Connersville, Ind., has received through its President, Mr. E. D. Johnston, a contract, amounting to nearly $100,000, for an irrigation pumping plant at New Orleans, La., using rotary positive pressure pumps.

THEO. SMITH & BRO., Jersey City, N. J., have incorporated their business under the name of Theo. Smith & Sons Co., with the following officers: Pres., Theo. Smith; Vice-Pres., Chas. H. Smith; Treas., Henry B. Smith, and Secy., Peter P. Smith.

WM. TOD & CO., Youngstown, O., are reported to have a contract for ten engines to cost $35,000 each, for the new mills of the Carnegie Steel Co., Pittsburg. It is also reported that the former company has purchased land adjoining its present plant and will erect a new machine shop..

THE FORT WAYNE ELECTRIC CORPORATION, Fort Wayne, Ind., is reported to have had bankruptcy proceedings instituted against it by its New York and Providence, R. I., creditors. A new company is said to have been formed with $500,000 capital, which will purchase the plant of the old company. The directors of the new company are J. W. White, H. C. Paul, G. W. Pixley, Chas. McCulloch, W. E. Mossman, S. M. Foster, Benj. Rothschild, J. J. Wood, Louis Fox, A. E. Hoffman and Max Fisher.

THE AMERICAN STEEL BARGE CO., West Superior, Wis., has a contract from the Bessemer Steamship Co. to build two barges of 8,000 tons capacity each, at a cost of about $320,000 for use in the lake trade. They will measure 460 ft. in length, with 50 ft. beam and 29½ ft. depth.

WADDELL & HEDRICK, Kansas City, Mo., consulting engineers, have been retained by the Tennessee Central Ry. Co. to prepare plans and specifications for, and to superintend the manufacture of some new bridges for its line. The forming of the above firm was noted in our issue of Jan. 26.

PICKANDS, MATHER & CO., Cleveland, O., are reported to have purchased the Ella blast furnace at West Middlesex, Pa., from Boyce, Wheeler & Co., for $35,000, and will make extensive improvements, including the building of a casting house, elevated tracks, stock bins and a new stock house.

THE AMERICAN CAR & FOUNDRY CO. is reported to have been incorporated with $60,000,000 capital combining the following car building companies: The Michigan-Peninsular Car Co., Detroit, Mich.; Barney & Smith Co., Dayton, O.; Ohio Falls Car Mfg. Co., Jeffersonville, Ind., and Haskell & Barker, Michigan City, Mich.

THE CAHALL SALES DEPARTMENT, Pittsburg, Pa., owing to the rapid increase in price of raw materials for boiler construction, has advanced the prices of its boilers 20%, to take effect March 1. The company states that it delayed making this advance as long as possible, in hopes that it could go through the season without doing so.

MR. JOS. G. FALCON, Evanston, Ill., has returned from his trip to Alaska, and is again furnishing the Falcon flexible pipe joint for water-works intakes and other purposes. For several years he has made a specialty of water-works intakes, and has recently completed repairs on the intake pipe at Paducah, Ky., made necessary by the shifting of sand bars.

THE FLUSH TANK CO., Aurora, Ill., reports a good business at present, having, among other orders on hand, one for Peerless stop-cock boxes for the Minneapolis Gas Engine Works, three car loads now being furnished. The company is also furnishing a large number of these boxes to the city of Chicago, and to adjacent towns, among them being Aurora and Elgin, Ill.

THE CALIFORNIA AUTO-TRUCK CO., is reported to have been organized with $5,000,000 capital, and will be incorporated in New Jersey, to provide an omnibus system for Los Angeles, Cal., and afterwards a truck system for San Francisco, Cal. The company is promoted by the recently incorporated New York Auto-Truck Co., of which mention has been made in several last issues of our paper.

MR. T. W. SNOW, Western Manager, Otto Gas Engine Works, 360 Dearborn St., Chicago, has an order from the Chicago Great Western Ry. shops at Oelwein, Ia., for a 100,000-gallon tank to be placed on a steel tower 80 ft. high. He has also furnished a new special Otto gasoline engine for electric lighting and power purposes, to the Engineering Department of the University of Illinois, Champaign, Ill.

THE ELECTRIC BOAT CO. has been incorporated in New Jersey with $10,000,000 capital to build all kinds of electric boats, including ferryboats and river craft. This company is a reorganization of the Holland Torpedo Boat Co. and the officers are: Pres., Isaac L. Rice, President of the Electric Storage Battery Co., and Vice-Pres., Robt. McA. Lloyd, Chief Engineer of the Electric Storage Battery Co.

THE NORTH PENN IRON CO., Philadelphia, through its New York representative, Mr. Gerald Berry, has recently closed the following contracts: Steel roof trusses for boiler house at Central Islip, N. Y.; for the Manhattan State Hospital; roof trusses for an alteration to the main building of the Kings County Hospital, Flatbush, N. Y., and stairways and bridges for the Manhattan Ry. Co., at the 129th St. yard, New York.

T. W. HARVEY, JR., 1256 Monadnock Block, Chicago, Ill., informs us that he is building for the Caswell Car & Improvement Co. a new form of gondola dump car, equipped with Harvey steel trucks and bolsters, Southern couplers and air brakes. He is also building 25 cars of 80,000 lbs. capacity for the Dolese & Shepard Co., which will be equipped as above, having also axles with journals 5 × 9 ins., and Merrill Bros. turnbuckles.

THE BETHLEHEM IRON CO., South Bethlehem, Pa., has completed for the Boston Elevated R. R., what is said to be the largest steel shaft ever made. It is 27 ft. 10 ins. long, 37 ins. in diameter, and weighs 170,000 lbs. It will be driven by an 8,000-HP. engine. When completed, it will be shipped on the Pennsylvania R. R. car that hauled the Krupp gun to the World's Fair in Chicago in 1893. The Bethlehem Iron Co. is said to be at work on eleven similar shafts for the Metropolitan Trastion Co. of New York.

J. G. WHITE & CO., 29 Broadway, New York, has a contract, according to report, to install a 1,200-HP. mining plant for the Deep Lead Transmission Co., near Melbourne, Australia. It will consist of two 400-K-W. rotary field dynamos and three 250-HP. alternating current motors. The former will be driven by two 600-HP. cross-compound Buckeye engines and the contract will also include condensers and air and circulating pumps.

THE MERCHANTS' WIRE & NAIL CO. has been incorporated in New Jersey with $500,000 common and $500,000 preferred stock to manufacture wire and nails, and will oppose the American Steel & Wire Co. and other similar combinations. The incorporators are Clement N. Biddle, Robt. Biddle and Wm. B. Knight, all of Philadelphia, in which city the main offices will be located. Mr. C. N. Biddle is President of the company.

THE MICHIGAN BRASS & IRON WORKS, Detroit, Mich., through J. W. Strackbein, General Sales Agent, has recently received an order for 600 hydrants and for valves ranging from 4 to 30 ins. for the new water works at Mobile, Ala. Mr. Strackbein advises us that work has started on the system and that the contract was awarded to M. T. Lewman & Co, Louisville, Ky. Two 8,000,000-gallon Worthington pumps have also been ordered..

THE CORLISS STEAM ENGINE WORKS, Providence, R. I., are reported to have been purchased by the Leiter-Hoadley-Knight syndicate which is back of the American Air Power Co., and the New York Auto-Truck Co., of which recent notices have appeared in this paper. It is said that the syndicate is contemplating forming a combination of steam engine builders, which will have a capitalization of from $20,000,000 to $25,000,000. It is also said that $1,600,000 was paid for the Providence plant. Col. D. M. Thompson, Providence, is the new President of the company.

THE SCHENECTADY LOCOMOTIVE WORKS, Schenectady, N. Y., are building ten 160,000-lb. consolidated freight locomotives with wide fire boxes designed for burning culm. The cylinders are 21×26 ins. and the drivers carry 130,000 lbs. weight. The works are also building five 180,000-lb. locomotives of the same type with heavier cylinders, 22×28 ins., the drivers carrying 160,000 lbs. They are all to be used as pushers on heavy grades of the Delaware & Hudson R. R. The company is reported to have shipped six 78,500-lb. locomotives to the Kiushiu Ry. of Japan.

J. S. MUNDY, 22 to 24 Prospect St., Newark, N. J., has recently shipped to Cuba a complete boiler plant; to Gibson, La., a 22-HP. double cylinder dredging engine with double drums and double extension drums; to Pittsburg, Pa., a double cylinder, double drum winch, with 12-HP. engine and boiler complete, and to the Consolidated Gas Light Co., New York, a double cylinder, double drum winch engine for the removal of the wreckage caused by the recent explosion of the immense gas tank at 20th St. and Ave. A. A plant similar to the latter has also been shipped to a coal mine in central Pennsylvania.

THE LIMA LOCOMOTIVE & MACHINE CO., Lima, O., writes us that it has under construction Shay geared locomotives as follows: One 65-ton engine for the Almagorda Lumber Co., El Paso, Tex., capable of hauling 200 tons up a 5% grade, on a line having 65° curves; a 50-ton engine for the J. J. Newman Lumber Co., Hathesburg, Tex.; also one of 28 tons; two of 17 tons, and two of 13 tons. The company has recently shipped to the St. Paul & Tacoma Lumber Co., Tacoma, Wash., a 60-ton Shay engine, designed for a road having curves of 70° and grades of 4% and 6%; it will haul 106 tons on the 6% grades. The company is also building an ordinary direct-connected locomotive.

THE SPRINGFIELD GAS ENGINE CO., Springfield, O., is busy at present, notwithstanding that it has more than tripled its facilities by moving into larger buildings, as noted in a former issue. The company states that good results have been secured from the engine furnished to the water-works at Gibsonburg, O., which has now been in operation for over a year. Among other contracts on hand is one from the Lestershire (N. Y.), water-works, for two 40-HP. and one 10-HP. engine, direct connected to Deming triplex pumps; the engines to furnish a daily capacity of 1,000,000 gallons. The company is also building two 15-HP. engines, direct connected to Stilwell-Bierce & Smith-Vaile triplex pumps to be used at Columbus, O., in connection with a hydraulic elevator system.

THE GENERAL ELECTRIC CO., Schenectady, N. Y., has the contract to complete the equipment of the power house of the St. Anthony Falls Power Co. at the lower dam of the Falls of St. Anthony, at Minneapolis, Minn., for which it manufactured and installed the plant now in operation. The hydraulic work and the power house were finished last spring, and five three-phase alternators of 700 K-W. each, and two direct-current dynamos of the same capacity, with the necessary rotary converters and static transformers, were installed. The full equipment of this plant as originally planned contemplated the use of eight alternators and two direct-current dynamos, with a total capacity of 10,000 HP. The present plant has been in full operation since May, 1898, the current being used to furnish power to the Twin Cities Rapid Transit Co., which operates the electric railways of Minneapolis and St. Paul. The additional equipment will consist of three 700-K-W. three-phase revolving armature alternators, with rotary converter, step-up and step-down air blast transformers, and switchboards for the dynamos and converter. The installation of this machinery will increase the capacity to 10,000 HP.

NEW COMPANIES.—Eastern Carbon Works, Rahway, N. J.; $200,000; to manufacture carbon and electrical supplies; E. A. Day, Morristown, N. J.; W. Mills, W. D. Kellogg.

Eaton Motor Carriage Co., Portland, Me.; $500,000, commencing with $40; Paul Askenasy, A. M. Sheehan, Boston.

Gate City Brick Co., Kansas City, Mo.; $5,000; J. H. Looney, John H. Doane, George Hey.

Acme Railway Equipment Co., 1 Montgomery St., Jersey City, N. J.; $100,000; to manufacture railway car equipment; Thos. L. McKeen, Easton, Pa.; Jos. R. Ellicott, Nyack, N. Y.; Ernest P. Burritt, Bayonne, N. J.

Sangamo Electric Co., Springfield, O.; $10,000; to manufacture electrical appliances; T. F. Sheridan, T. B. McGregor, F. G. Houser.

Star Telephone Co., Ashland, O.; $50,000; Geo. A. Ullman, Elias J. Groscup, Samuel H. Grabill, Jos. R. Swartz, and Geo. R. Freer.

Popular Telephone Co., Topeka, Kan.; $1,000,000; E. F. Ware, Webster Wilder and D. E. Palmer, of Topeka.

Self-Igniting Gas Burner Co., Philadelphia, Pa.; $100,000, commencing with $50; M. Spier, J. J. Dunne, J. M. Kreamer, R. C. Broadbent, A. Miller.

Merion Construction Co.; $25,000; general construction business; R. K. Johnson, Merion, Pa.; D. R. Johnston, Dudley, N. J.; E. L. McConaughy, Philadelphia; W. Moran, Philadelphia; Robert Holland, Bala, Pa.

Cameron Telephone Co., Cameron, Mo.; $10,000; E. C. Baker, S. D. Thompson, John M. Thompson and others.

Pipe Machine & Mfg. Co., Corporation Trust Co.'s Bldg., Jersey City, N. J.; $125,000; to manufacture conductor pipe, eave troughs, etc.; Alexander Glass, B. P. Opdyke, G. M. Verity, W. Booth, F. M. Bowers.

West Virginia Steel Co., Wheeling, W. Va.; $1,000,000, commencing with $50; G. Hook, W. A. Wilson, G. E. Stiffel, C. W. Franzheim, F. G. Caldwell.

Model Marine Motor Co., Philadelphia, Pa.; $500,000; to build marine craft; B. P. Ryder, W. E. Sharps, W. J. Merrill, E. C. Paramore, H. C. Bockmeyer.

Fargan Construction Co., Chicago, Ill.; $5,000,000, commencing with $500,000; to construct plants for the sale of hot water and steam; H. T. Fargan, C. H. Masters, H. C. Adams, Frank Tesbera, Toledo, O.; H. M. Wisler, Chicago.

Mail Delivery Notice.

Special efforts are made to deliver our paper to its readers each week at the earliest possible moment. The largest binding and mailing establishment in New York begins work on Engineering News early each Wednesday evening, and all papers for Boston, Philadelphia and Washington are usually in the New York post-office by midnight; all Brooklyn and New York city papers by 3 o'clock—in ample time for the first delivery Thursday morning. The entire edition, including foreign copies, is in the mail soon after 6 o'clock Thursday morning. If your paper is not received promptly we advise that you make a complaint to your local post-office officials.

COUNTY ROADS.

GLOUCESTER COUNTY, N. J.

Two separate Committees of the Board of Chosen Freeholders of the County of Gloucester, in charge of the construction of said roads, will meet in the Freeholders' Room in the Court House, in the City of Woodbury, N. J., on Saturday, March 11th, 1899, at 10 a. m., to receive sealed proposals for the building of the two following described roads:

The First to be Built of Macadam.—Beginning at the intersection of Broad Street and Red Bank Avenue, at the southerly terminus of the Woodbury and Gloucester Stone Road, in the City of Woodbury, and extending southwardly along Broad Street on both sides of the trolley tracks, to the northern terminus of the Woodbury and Mantua Stone Road, a distance of 4,204 feet.

Second Road to be Built of Gravel.—Beginning at Clayton Borough line at its intersection with the Old Township Road leading from Clayton to Franklinville in the Township of Franklin, thence along said Road through Franklinville and Malaga to Cumberland County line, a distance of six miles more or less.

Both roads to be built in all respects in accordance with separate specifications. Those for the Macadam Road, being on file at the office of William M. Carter, Engineer, No. 127 South Broad Street, Woodbury, N. J., and those for the Gravel Road on file at the County Clerk's Office in Woodbury, N. J.

Separate proposals from bidders for each separate road shall be accompanied with separate certified checks in the amount of one thousand dollars each, conditioned that if the contract be awarded to him, he will when required, by the Board, execute an agreement in writing, to perform the work according to the specifications.

The successful bidder, for the Macadam Road, will be required, in addition to the agreement aforesaid, to execute, to said Board, a bond, in the sum of at least $5,000, with such securities as the Board may approve conditioned for the faithful performance of the contract.

The successful bidder for the Gravel Road shall furnish a similar bond in the sum of at least $4,000, subject to the same conditions as aforesaid.

All bids must be presented to the Committee and at the time and place aforesaid, and at no other time. Bids will then be immediately opened and publicly read.

The Board reserves the right to reject any or all bids.

C. W. STARR,
6-2t Director Board of Chosen Freeholders.

U. S. ENGINEER OFFICE, Army Building, New York, Feb. 8, 1899.—Sealed proposals, in triplicate, for furnishing American Portland CEMENT at Forts Schuyler and Totten, N. Y., will be received here until 12 M., March 10, 1899, and then publicly opened. Information furnished on application. H. M. ADAMS, Major, Engrs. 7-4t

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SEALED PROPOSALS will be received at the office of the Light-House Engineer, Baltimore, Md., until 12 o'clock M., March 15, 1899, and then opened, for furnishing the material and labor of all kinds necessary for the completion and delivery of the METAL WORK for Hooper Island Light-House, Md., in accordance with specifications, copies of which, with blank proposals and other information may be had upon application to W. A. JONES, Lieut. Colonel, U. S. A. 7-2t

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SEWERAGE SYSTEM.

STEELTON, PA.

Sealed proposals, addressed to J. D. Young, Borough Secretary, and properly endorsed, will be received by the Borough Council of Steelton, Pa., until 7:30 p. m., Tuesday, February 28th, 1899, and opened immediately thereafter, for the construction of a system of sewers for the Borough. The work includes the laying of thirteen miles of vitrified pipe sewers including house connections as follows:

15,000	ft. of	4-inch	house connections.
42,390	"	8-inch	pipe laying.
6,050	"	10-inch	" "
1,080	"	12-inch	" "
100	"	15-inch	" "
100	"	18-inch	" "
850	"	20-inch	" "
5,500	"	24-inch	" "
250	"	12-inch	iron pipe laying.
150	"	24-inch	iron pipe laying.
144	Manholes.		
20	Flushtanks.		

Specifications and forms of proposal can be secured at the office of the Engineer, 137 Broadway, New York, and can be seen at the Borough Council Chamber, Steelton, Pa., on or after 15th of February, 1899.

A certified check of $5,000.00 made payable to E. C. Keller, Treasurer, without conditions, must accompany each proposal.

The right is reserved to reject any or all bids, or to accept that one which in the judgment of the Council is for the best interest of the Borough.

By order
H. H. CAMPBELL, President.
JNO. D. YOUNG, Secretary.
ALEXANDER POTTER, Consulting Engr.,
137 Broadway, New York City. 6-3t

SEWERS.

NORFOLK, VA.

Sealed proposals will be received at the office of the City Engineer, Norfolk, Va., until 12 o'clock, noon, of the 9th day of March, A. D. 1899, for constructing sewers in the Fifth (or Brambleton) Ward of the City of Norfolk, Va.

Forms of proposals, copies of specifications, approximate schedules of work, and instructions to bidders may be obtained and plans and profiles of proposed work seen at the office of the City Engineer, Norfolk, Va. Each bid must be accompanied by a certified check in the sum of Two Thousand ($2,000) Dollars as a guarantee of the good faith of the bidder, which check will be forfeited as liquidated damages in the event of the failure or refusal of the successful bidder to enter into a contract within two (2) weeks of the date of the awarding the contract to him.

A satisfactory bond in the sum of Twenty Thousand ($20,000) Dollars for the faithful carrying out of the contract will be required.

The right to reject any or all bids is specially reserved.

(Signed) The Local Board of Improvement of Brambleton Ward, Norfolk, Virginia.
7-3t C. J. JONES, President.

U.S. ENGINEER OFFICE, 537 Congress St., Portland, Me., Jan. 19, 1899.—Sealed proposals for furnishing and setting up ELECTRIC LIGHTING PLANT at Fort Preble, Me., will be received here until 12 m., March 6, 1899, and then publicly opened. Information furnished on application. S. W. ROESSLER, Major, Engrs. 6-4t

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CAST-IRON PIPE.

WINDSOR, N. Y.

Sealed bids will be received by the President and Board of Trustees of the Village of Windsor, Broome Co., N. Y., for furnishing about three hundred (300) tons of 8, 6 and 4-inch pipe, and about 5 tons of special castings for the Water Works.

The bids will be opened after 8 o'clock p. m., Monday, February 27th, 1899. Specifications and blank forms of proposal will be furnished by the Village Clerk, M. A. Tompkins, Windsor, N. Y., or by the Engineer, J. F. Witmer, Rooms 705 and 707 Ellicott Square, Buffalo, N. Y.

The right is reserved to reject any and all bids.

Bids for the other materials and for the construction of the System will be advertised for later.

T. V. FURMAN, Prest.,
B. S. ANDERSON,
C. DUSENBURY,
Trustees.
M. A. TOMPKINS, Clerk.
J. F. WITMER, Engineer, Buffalo, N. Y.
7-1t

WATER-WORKS.

AMSTERDAM, N. Y.

Sealed proposals will be received at the office of the Board of Water Commissioners, Amsterdam, N. Y., until Wednesday, March 1st, 1899, 10 a. m., for the labor for the construction of an extension to the present system of water-works, consisting of about five (5) miles of iron and vitrified pipe from 36, 24, 20, 18 to 6 inch. Also the building of two (2) stone dams and stone fountain.

The work will be divided up into five contracts, and contractors may bid on one or all. Certified check must accompany each bid.

Copy of map and specifications will be on exhibition at the office of the Board, Amsterdam, N. Y., on and after Feb. 10th, 1899.

The right is reserved to reject any or all bids or to accept the one which in the judgement of the board is for the best interests of the city.

JAMES R. SNELL,
S. E. BABCOCK, Superintendent.
Consulting Engineer. 6-3t

MAIN SEWER.

CLEVELAND, O.

Bids will be received by the Secretary of the Board of Control of the City of Cleveland, Ohio, up till noon, March 15th, 1899, for constructing the fourth portion of the Walworth street main sewer.

The work consists of about 1,340 lineal feet of sewer 16 feet 6 inches in interior diameter.

Bids must be made upon blanks furnished by the Chief Engineer, and accompanied by a certified check in the sum of Fifteen Thousand ($15,000) Dollars upon a solvent bank in the City of Cleveland.

Plans and specifications are on file and can be seen at the office of the Chief Engineer, Cleveland, Ohio.

GEO. R. WARDEN,
Director of Public Works.
M. E. RAWSON, Chief Engineer. 7-2t

COMMONWEALTH OF MASSACHUSETTS.

HARBOR AND LAND COMMISSIONERS' OFFICE,
ROOM 131 STATE HOUSE,
BOSTON, Jan. 28, 1899.

Sealed bids or proposals, endorsed "Proposals for Building Pile Platforms on South Boston Flats," will be received by the Board of Harbor and Land Commissioners, Room 131, State House, Boston, Mass., until 12 o'clock, noon of Tuesday, Feb. 21, 1899, and then and there will be publicly opened and read.

All proposals must be made upon blank forms which may be obtained at the office of the Commissioners, where plans and specifications may be seen.

Each bidder will be required to give to the Board satisfactory assurance of his competency, experience and responsibility.

Each bid is to be accompanied by a certified check for one thousand ($1,000) dollars, payable to the Commonwealth of Massachusetts, such check to be returned to the bidder unless forfeited under the condition herein stipulated. This check should not be enclosed in the sealed envelope containing the bid, but should be delivered to the Secretary of the Board, from whom a proper voucher will be received.

A bond will be required for the faithful performance of the contract, in the sum of twenty-five thousand ($25,000) dollars, with sureties satisfactory to the Board.

The person to whom the contract shall be awarded will be required to execute the contract and furnish the bond within ten (10) days (not including Sundays) from the date of notice mailed to the address left with the Board that the contract is ready for signature, and in case of failure or neglect so to do, will be deemed to have abandoned it, and the check accompanying the proposal shall be forfeited to the Commonwealth.

The right is reserved to reject any and all bids, and to waive any defect or informality, at the discretion of the Board.

WOODWARD EMERY,
CLINTON WHITE,
CHARLES C. DOTEN,
6-2t Harbor and Land Commissioners.

CAST-IRON PIPE.

BLOOMINGTON, IND.

Sealed proposals addressed to J. D. Showers, Bloomington, Ind., will be received February 20th, for 300 tons of 12-inch, 72 tons of 6-inch, 10 tons of 16-inch pipe and specials.
7-1t FRANK SCHEFOLD, Engineer.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., February 7th, 1899.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 7th day of March, 1899, and then opened, for the heating and ventilating apparatus, complete, in place, for the U. S. Post Office, Custom House, etc., building at Camden, N. J., in accordance with the drawings and specifications, copies of which may be had at this office or the office of the Superintendent at Camden, N. J. JAMES KNOX TAYLOR, Supervising Architect, 7-2t

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FORT HAMILTON, N. Y. H., February 13, 1899.—Sealed proposals, in triplicate, will be received here until 12 M., March 14, 1899, and then opened, for putting in additional PLUMBING conveniences at this post. Information furnished upon application. U. S. reserves right to reject any or all proposals. Envelopes containing proposals should be marked "Proposals for additional plumbing" and addressed E. F. McGLACHLIN, 1st Lt., 5th Art'y, Q. M. 7-4t

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SEALED PROPOSALS will be received at the office of the Light-House Engineer, Baltimore, Md., until 12 o'clock M., March 15, 1899, and then opened, for furnishing the material and labor of all kinds necessary for the erection and delivery of the HOOPER ISLAND LIGHT-HOUSE, Md., in accordance with specifications, copies of which, with blank proposals and other information may be had upon application to W. A. JONES, Lieut.-Colonel, U. S. A. 7-2t

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